

A lively & colourful kids' guide to
bringing objects to life on screen!

ANIMATE EVERY THING





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A film by Scott Kiborn
For Grades 1-4

Tools and imagination are all you need to bring objects to life in an animated film. ***Animate Everything*** is a series of short animated films that showcases how this art form imparts life, spirit, motion and activity through the use of objects, movement, repetition, cameras and playback software—the same tools that professional animators work with.

This DVD also features ***Let's Tell A Story Using Animation***, a digital comic book that complements and reinforces the fundamentals in animation production.

Produced by the National Film Board of Canada (NFB), 2010.

Animate Everything presents learning opportunities in the following subject areas:

- Language Arts
- Media Literacy
- Geography
- Math
- Social Studies
- Physical Education
- Fine Arts

Learning Outcomes

Focusing on literacy, numeracy and media literacy, learning outcomes will include building trust and teamwork; using conflict resolution and positive communication skills; gaining knowledge of fine arts and technology uses; articulating messages in media; and understanding concepts such as symbolism, perspective, storytelling and artistic expression.

Context and Outcomes

Participants will understand the positive impact that making animated films can have in the classroom. Facilitator will acquire tools to inspire young people to tell animated stories.

Why Animated Stories?

Just like plays, films, books and comics, animation invites an audience to observe and interact with the world in new and magical ways. We can bring paper cut-outs to life to tell a story of adventure, or make a hammer walk or interact with a floating flower. Animation techniques develop character and emotion through tempo, repetition and timing; they challenge conventional notions of representation, imagination and human interaction.

About the Animators

An accomplished painter and printmaker, Kiborn experiments with a variety of art forms, including photo-essay projection and photo collage. The Vancouver-based artist has a unique perspective on kids and animation. His hand-drawn work can be seen in feature films such as *Space Jam* and *Prince of Egypt*, and he truly understands the spell the medium can cast. It was his experience of making simple, mixed-media, stop-motion animation that revealed to him just how fun and accessible the art form can be.

Leading workshops with children across much of western Canada, Kiborn recognized how misconceptions about animation were keeping kids from trying it: “There is a preconceived idea that you have to be a talented artist or technically good with computers to animate. That’s not the case.”

With his directorial debut, ***Animate Everything***, which features his two school-age children, Kiborn offers young people an inspiring introduction to the magic of animation.



Classroom Materials Needed

- DVD samples of animation or access to the NFB on-line screening room nfb.ca
- A computer or computer lab with simple editing software
- Digital cameras
- A tripod

Additional materials:

- Assorted coloured paper
- Tape or sticky tack
- Pipe cleaners
- Objects from nature or collections of classroom materials
- Various backgrounds
- Pencil crayons
- Markers
- Flip chart paper

History

Animation has transfixed viewers since the late 1800s when hand-drawn cartoons and cinema houses were created. Notable dates include:

- 1892 – Théâtre Optique, the first optical theatre opens in Paris, France.
- 1928 – Disney brings Mickey Mouse to life in the first animated film, *Steamboat Willie*.
- 1942 – Animation begins at the National Film Board of Canada.
- 1952 – Norman McLaren wins the first Oscar® for a Canadian animated film (in the Best Documentary Short subject category).

The NFB has won many Academy Awards®, stably for the animated short films *The Sand Castle* (1977), *Every Child* (1979) and *The Danish Poet* (2007).

“What happens between each frame is much more important than what exists on each frame. Animation is therefore the art of manipulating the invisible interstices that lie between frames.”

— Norman McLaren

Vocabulary and Useful Terms

1. **Animation:** The illusion of movement created by playing a series of still images so quickly that the eye is fooled into seeing motion. Animation requires patience, focus, determination and teamwork. Generally, it takes 24 images (pictures) to make one second of animation. There are three main principles of animation: image, image repeated with slight change, and speed.

2. **Thaumatrope:** Disc with two different pictures on its two sides, which combine into one by persistence of visual impressions when disc is rapidly rotated.

3. **Phenakistoscope:** A revolving disc on which figures drawn in different relative attitudes are seen successively, so as to produce the appearance of an object in motion. It is often arranged so that the figures may be projected upon a screen.

4. **Hand-drawn or cel animation:** The oldest and historically the most popular way of making cartoons. Each frame is drawn by hand on paper or cel, short for “celluloid acetate.”

5. **Clay, cut-out, puppet or silhouette animation:** Animated figures are cut out and constructed out of materials such as wood, paper, Plasticine or clay.

6. **Storyboard:** A place to visually plan a story in two dimensions and first see it come alive, much like a giant comic strip. The important aspect of thinking up a continuous series of moves in advance can be done at this stage. See the comic book guide for basic steps: Start with an idea, draw and write it out, prepare your workspace, take pictures, capture/upload pictures, edit and watch.

7. **Foley kit or sound effects:** A sound that is produced or recorded to make a creative or storytelling point. Foley artists make kits of materials that can be used to create sounds. Sound effects can accompany dialogue or music or stand alone in a soundtrack.



8. **Speed:** Since animation is the illusion of movement created by playing a series of images, attention to the speed at which they are seen is essential. Tempo is defined as the rate of motion or activity—the pace. In animation, the number of steps that it takes to move the object through the frame establishes and determines time. Distance relates to the speed of movement. Acceleration and deceleration are important aspects to consider as well.

9. **Voiceover or narration:** A technique used to give voices and personalities to animated characters; to provide commentary; or to create the effect of storytelling by a character who is not seen onscreen.

10. **Magic arm, gorilla arm or tripod:** Generally refers to a three-legged object used as a platform for a camera, providing stability, leverage and range of motion. While traditional tripods can be bulky and heavy, arm devices are light and flexible.

Types of Animation in *Animate Everything*

CHAPTER 1

Animate Anything (3 min 38 s)

Learn the key principles of animating an object. See how a series of pictures, taken one after another, creates an optical illusion when played back quickly and in sequence. Students will understand sequence, timing and geometry through photos and playback.

CHAPTER 2

Flip It (1 min 10 s)

The easiest way to create animation is to make a flip book. Draw an image on paper and repeat the image, introducing a small change each time. When the pages are flipped rapidly, the images appear to move and change. Students will explore object animation further with ideas of transition, change, growth and movement.

CHAPTER 3

Shape It (3 min 51 s)

Learn how to create cut-out animation (also known as 2D or stop-motion animation) with images made out of paper that are moved slightly and then photographed. When photos are played back, the cut-outs appear to move on their own. Students can understand story building using multiple interacting objects.

CHAPTER 4

Animate People (1 min 42 s)

Stories and characterization develop when a series of images are played back. Using this technique, students can understand healthy relationships, representation, stereotypes, acceptance and communication. The importance of issues such as listening, conflict resolution and humour can be powerfully expressed using animation.

CHAPTER 5

Classroom in Motion (4 min)

This final film in the series demonstrates a plethora of ways to animate the world around us with items found in the classroom or school. Remember, the speed of the process of making the animation does not determine how fast the animation moves in the final film. Students can use techniques such as timing, tempo, movement and repetition to study issues like body image, healthy relationships and environmental awareness. Assignments and activities that range from writing scripts to crafting storyboards to making animated films may be undertaken following this inspiring film.



Suggested Activities and Actions

Activity 1: Object Animation: Lindsay's Animated Flower, Chapter 1

Lindsay takes pictures outdoors of a yellow flower, moving the object a short step each time. In the final playback, the flower moves from the grass onto the road and across all kinds of surfaces and textures until it reaches the beach and is surrounded by seashells. Many pictures need to be taken to create one second of animation. (Note: The number can be set in animation software.)

Subject areas: healthy relationships, math and science.

Discuss concepts of sequences and series, and of alienation, bullying and otherness. In small groups, have students create a storyboard using collections of similar and different objects to represent various perspectives on "inclusion" and "exclusion." Ask students to make a soundtrack to accompany their images, noting that it can help explore their characters' feelings of conflict or harmony.

Activity 2: Flip Book Animation, Chapter 2

Begin with a show of 2D and 3D objects, shapes and stick people.

Subject areas: geometry, science, math, language arts and drama.

Define 2D and 3D. Use a tableau to demonstrate interconnections between objects, shapes and people. Build vocabulary to describe the images. Explain principles of shape and volume. In small groups, have students use their body to form shapes they have identified. Then ask them to draw their favourite 2D shape and its corresponding 3D object. Show samples of a flip book in which a 2D object becomes 3D. Starting from the second-to-last page, have the students draw the final 3D object. Moving forward one page at a time, they should trace the image, leaving one line off each time, until they come to the original 2D object and

then a clear page. This can be done by using rulers and measurements for volume, size and shape, or using computers and printing out the final products to share with the class.

Activity 3: Shape Animations and Pixilation: Will and Lindsay's Video Game Journey, Chapters 3-5

In the samples shown in Chapters 3-5, we see techniques such as the walk cycle and replacement animation, using many different sizes and colours of shapes. To animate 2D images of people, take their pictures in a well-lit space with a clean white background behind them.

Divide the class into six teams of five students each and assign roles, which might include: camera person, two character animators and two special-effects animators, who could also double as directors or assistants who ensure that the area the team works in is safe.

Subject areas: family studies, fine arts, media studies and social studies.

Ask students to analyze portraits of famous painters or people. What kind of painter/artist or person were they? How do we form opinions about people based on one image alone? How does body language or facial expression change our perceptions? Students can create flip books or walk cycles focusing on one body part or on individuals from different cultures and their varied expressions. Discuss stereotypes, policies to prevent bullying and issues such as courage, self-expression and acceptance.

To compile these images into a movie, watch online tutorials about the software that your school has and learn techniques for capturing, assembling and editing a timeline as well as for exporting the final projects.



Discussion Questions Before Screening

- What is animation and how does it work? What is an example of an animate object? An inanimate object? What are some of your favourite cartoons or online games? In small groups, identify animations you know and share the reasons why you like them. Review genre (documentary, animation, drama, comedy, etc.) and story (beginning, middle and end) in media making.
- What is the most unlikely object that might come to life with animation? What would it interact with? What is interesting about being able to bring to life something that doesn't normally move?
- Do you ever measure your height or how long your hair has grown? Our bodies are in a constant state of change, even though we can't see it. What are other things that change but that we can't see? How can we impose change on others? On objects?

(Note to teachers: See the section on history in this study guide for some background on how and when animation began, as well as suggested screenings in the online section at the end of the study guide.)

Discussion Questions During Screening

- Film is a visual medium. The challenge for filmmakers is to create scenes that show, rather than tell. In what ways can we use vocabulary to be visual? What is the process for writing stories? For developing characters? For choosing items to represent your ideas in a visual way?
- We see rocks and other objects move, interact and almost have "conversations" with the objects around them. Write "character bios" for the different objects that are brought to life. Look for ways in which animation instills character, emotions and story arcs into these objects or people.

- The filmmakers took images and pictures from many different angles to make the films visually interesting. To do this, they used a tripod and other technology. Identify the different angles used (wide, medium, close-up, etc.) and how they help tell the story.
- The soundtrack in these films helps tell the story. Watch a segment without the sound on, and then with it back on again. How do the filmmakers use music and sound effects to help us connect with the messages of the films? Does the soundtrack build tension? Add feeling and emotion? Replace dialogue? Express danger or safety?

Discussion Questions After Screening

- Grasping the concepts of sequence, timing, space, geometry and playback is essential to understanding how to make animation. For example, to create the illusion of motion, such as a person walking, it is important to keep some pieces stationary while moving other parts. View the video once again and note how rate (or speed) affects the magical feeling we experience when we watch. Ask: What is an incremental change? An obvious change? How did the animators make the object move from side to side? Get bigger? Go faster or slower?
- Animators take multiple frames (photos) of their work. How can you draw on creativity, patience, diligence and discipline to complete goals?
- Storyboarding is one of the key tools that an animator uses. Why is this step important? You don't necessarily have to be good at drawing to do it; you just need to be able to express ideas in a sequence.



Additional Sample Activities and Actions

History and Media Studies

“Animation is not the art of drawings that move but the art of movements that are drawn.”

- **Norman McLaren**

- In small groups, ask students to research any information they can find about animation. Who was Norman McLaren? Why was he important? What kind of awards did he receive? What kinds of animation techniques is he known for?
- Invite students to write a personal story about a time when they learned that something was not as it seemed and how they felt about that.

Interactive Elements Exploring Science and Math

- Drawing on principles of photographic composition, such as lighting, perspective and range of movement (close-up, medium shot, wide shot), have students move from script (written pictures) to storyboard (visual pictures) to explore stories and their arcs. Students may also select images from magazines to express their visions.
- Drawing on ecological cause-and-effect cycles, such as the water or rock cycle, ask students to apply object animation to relationships between humans, animals and landscapes. Using diagrams or paper cut-outs, explore interaction and change over time.
- Teach math and science by dividing, adding and subtracting objects. Break down challenging concepts, such as how cells divide or how bones heal themselves, using objects of various sizes, a series of repetitious movements, cameras and editing software. Encourage students to create presentations to share with the group.

Healthy Relationships and Family Studies

- Invite students to demonstrate how emotions can be expressed through simple objects, drawing on concepts like tempo (for example, how “calm” or “nervous” can be expressed by the speed of movement of an object).
- As part of a unit on environment, ecology or Aboriginal studies, invite a guest to class or via video conferencing, and record a personal story of theirs about creativity or self-expression. Animate their story with old pictures (or objects) or pictures through chronological time, and share it at a school event.
- Through background and foreground objects, explore cultural settings that are unique to students in the class. Develop a project on perspectives and include in the discussion issues such as development, immigration, progress and belief systems.

Language Arts and Drama

- The places where Will and Lindsay travel, such as into a video game, space or the sea are imaginative. Invite students to explore inventive or extreme environments as locations for stories. Brainstorm lists of characters types (protagonist, antagonist, etc.) and their attributes. Cut up these lists and invite students to work in pairs to choose a setting, two characters and a few attributes from the collection. Using their selections, students will then write a short story, transfer it to a storyboard and create an animated story.
- Have students write book reviews or create book “trailers” or advertisements using shape animations. Explore sound with students using a sound effects library or a foley kit to add to the messages expressed in the book trailers.
- Explore gender issues through myths or fairy tales. Compare and contrast historical and modern-day accepted ways of acting and making decisions by combining characters to create new endings or by giving characters different, updated voices.



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Links

Animando

nfb.ca/film/animando_english/

The Sand Castle

nfb.ca/film/sand_castle/

Bully Dance

www.nfb.ca/film/bully_dance/

ANIMATION REFERENCES

The NFB CineRobotheque and Mediatheque

The NFB CineRobotheque and Mediatheque, in Montreal and Toronto respectively, offer animation workshops for school groups and the general public.

nfb.ca/cinerobotheque

nfb.ca/mediatheque

Focus on Animation

Explore the NFB's rich animation heritage, learn about the techniques used in our films and discover some of our key filmmakers.

www3.nfb.ca/animation/objanim/en/index.php

Aniboom

Aniboom, the first virtual animation studio in the world, bridging the gap between the global community of independent animators and the professional animation industry

aniboom.com

Museum of Vancouver – Animating History

museumofvancouver.ca/family.php?

MOVIEMAKING SOFTWARE

iStopMotion

boinx.com/istopmotion

FrameThief

framethief.com

Stop Motion Works

stopmotionworks.com/stopmosoftwr.htm

Stop Motion Animator

clayanimator.com/english/stop_motion_animator.html

GAMES

The Neverhood

classic-pc-games.com/pc/adventure/the_neverhood.html