

## CAPTURING ANIMATION

There are several cameras that can be used for shooting stop motion animation. If you are shooting film a Super 8 camera with a single frame button is a terrific choice. Super 8 cameras are compact and the film can be processed and transferred to video for viewing.

If the budget allows for shooting 16mm film excellent results can be had with a Bolex camera. Many visual effects cinematographers got their early training using a Bolex.

Video cameras are problematic in that they were never designed to shoot single images. Even if you start and stop the record button as fast as you can you will always capture several frames. You have no control over repeatability and there is no guarantee that the images will not scramble. There are special video recorders that were built for surveillance purposes that will capture single frames but the cost is prohibitive.

Digital video cameras such as a MiniDV camera can work well if coupled with editing software. Instead of recording on the tape I recommend that you record using the still picture mode and place the animation frames on a memory stick or similar storage media. Editing software can be used to turn these single pictures into a video stream for playback. This is how the opening sequence of this instructional video was done.

Probably the most direct way to mimic the ease of the super 8 film camera using digital technology is to use a Web camera with stop motion software as shown in the video.

## THE SNOWBALL

The assignment is to make a snowball grow in size as it rolls along. Adding clay to a ball as you are animating it is very difficult. Many animators use replacement animation to make this type of effect easier. Take some white clay and make a series of balls of different sizes from small to large. The large ball could be 5 times as big as the small ball and have perhaps 20 sizes in between. After you have made these twenty balls out of white Polymer clay bake them in the oven to harden. 275 degrees for about 15-20 minutes.

When the balls are done animate them by taking the small ball and move it left to right in front of the web camera shooting a single picture for each incremental movement. On each frame the ball moves to the right substitute the next larger ball. By the twentieth frame the little ball will appear to not only move from left to right but to have grown to 5 times its size.

## THE INCH WORM

Make 5 identical worms out of clay. The first worm lies flat. Make a slight arch in the middle of worm number two while bringing the head and tail closer together. Increase the arch even more on worm number three and bring the head and tail closer still. Increase the arch more on worm four. Worm number five will have the biggest arch and the head and tail will be very close together. Bake the worms to harden them making sure that each can stand by itself without tipping over.

To animate, take a picture of worm number one. After the picture put your surface gauge, or any sort of temporary marker, against the head of the worm. Remove worm one and put worm two (with the first arch) with its head against the surface gauge. Remove the gauge and take a picture. Repeat for worms 3-5. Now place the gauge at the tail of the worm and replace the worms in the opposite order 5-1 while animating. This time keep registering the worms at the tail.

The resulting animation should show one worm arching its back and inching forward with each rise and fall of its body.

## THE FLYING BALL

This next set up is a bit elaborate but well worth the effort. Making an object like a ball fly in stop motion is very time consuming and difficult if a wire suspension rig is used. Whenever possible I have gravity help me. On a hard floor set up two small folding tables about one foot apart. Get a piece of stiff clear Plexiglas from your local hardware store about two feet by one foot in size. Using a special Plexiglas drill (so you don't crack the plastic) drill a hole large enough to admit a thin three-inch long bolt. Remove the protective paper from both sides of the plastic and attach the bolt to the sheet using a small nut on the opposite side. Place the clear sheet on top of the two tables with the bolt sticking upward. Put a clay ball on the end of the bolt. Make sure the ball is large enough to hide the bolt and nut behind it when viewed from the top. Glue a large photo or magazine picture of a landscape to a piece of stiff card then tape the card to the bottom lips of your tables so that the picture is directly behind the clear plastic. Set up your camera on a tripod and shoot downward. The ball should now look like it is floating in the landscape. You don't see the bolt since the ball is in front of it.

To animate simply slide the Plexiglas sheet atop the two tables to make the ball appear to fly in your picture. You can substitute a clay bird instead of the ball and flap its wings as you make it "fly" by pushing the clear plastic. Lighting can be tricky to avoid reflections. Your best bet is to use overall soft lighting from the side never from the top. This set up is just like an animation stand that is used for shooting flat art animation.

## THE BOBBING ICE CUBE

After the flying exercise remove the bolt from the plastic sheet and place it flat on a table with a sheet of bright blue colored paper underneath. This will make the plastic look like a pool of water. Make a long tube out of white sculpey about three inches long and one inch in diameter. Take a six-inch long clay-cutting blade and cut the tube into a long brick with flat sides. Be careful, as the cutting blade is very sharp! This block will make up a number of replacement ice cubes that will appear to float in water. Cut up the brick lengthwise to make a 1/2", 1/4", 1/8", and 1/16" tall cubes. As you replace these cubes as they sit on the "water" it will appear as if one cube is sinking as it goes from being 1/2" tall to 1/16" tall. You can also experiment with cutting the cubes at an angle so that the cube appears to bobble in the water. Another trick is to use table salt to create a ripple effect on top of the Plexiglas as the ice cube bobbles.

To animate shoot a few frames of the Plexiglas "water" by itself. Put in the thinnest cube and rim it with salt then take a picture. Move the salt away in an even ring around the cube then replace the cube with the next tallest cube. Take a picture. Move the ring of salt even further from the cube and replace the cube with the next size. Keep moving the ring of salt further from the cube making the ring larger in diameter each time. The cubes should cycle from small to large to small again to make it appear as if one cube is bobbing in the water.

## REVIEW AND FURTHER STUDY

To learn more of the history of stop motion animation it is invaluable to see and read about the films of the following artisans.

1. George Pal and Puppatoons.
2. Nick Park and Aardman animation "Chicken Run"
3. Wil Vinton
4. Ray Harryhausen "Jason and the Argonauts", "Mysterious Island"
5. Willis O ' Brien "King Kong" 1933

## RESOURCES - INTERNET

**Art-tek.com**  
Stopmotion.com  
Polymerclayexpress.com

**Polyform Products Co.**  
1901 Estes Avenue  
Elk Grove Village, IL  
60007-5415  
Telephone (847-427-0020  
Manufacturers of Sculpey

## TOOLS AND SUPPLIES

**Kit Kraft**  
12109 Ventura Place  
Studio City, CA 91604  
Telephone (818) 509-9739  
A great source for model makers. They carry the almaloy wire.

**Polymerclayexpress.com**  
Good source for clay, tools and paint.

**Logitech**  
Web camera and stop motion software.

Purchase of this video entitles the owner to use the information to make the Gronk caveman character and animate him for personal use. This use is surpassed when the Gronk character and or his animation are mass produced, made by employees or sold through commercial accounts. Mass production of slightly altered designs, animation or derivative molds is prohibited. Gronk © 2003 Mark Sawicki.

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## BEGINNING ANIMATION VOL. 1:

# HOW TO CREATE AND ANIMATE A CLAY PUPPET

## TEACHER'S GUIDE

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