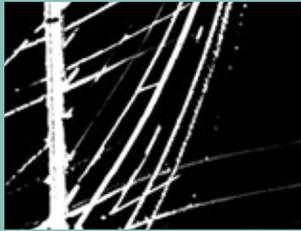


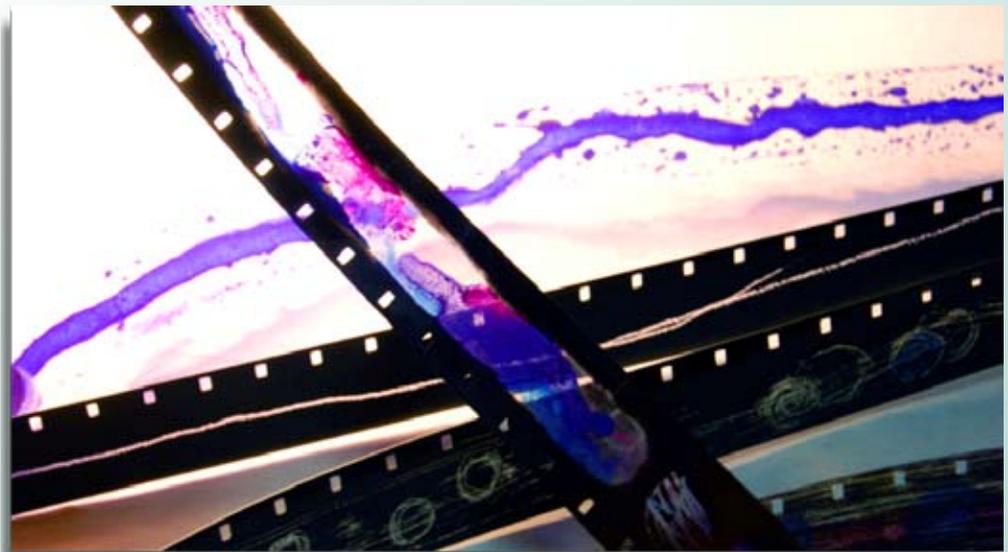
Scratch Film

Scratch Film was inspired by



Scratch Film Artists

Len Lye
Stephanie Maxwell
Thad Povey



Scratch Film, also known as Direct Animation, is the process of drawing and scratching designs directly onto film. Images are hand painted on clear and black film leader using paints, markers, and ink. Other techniques include stenciling, etching, and the use of found footage spliced directly into 16mm and 35mm film.

TRY IT! Collect these things:



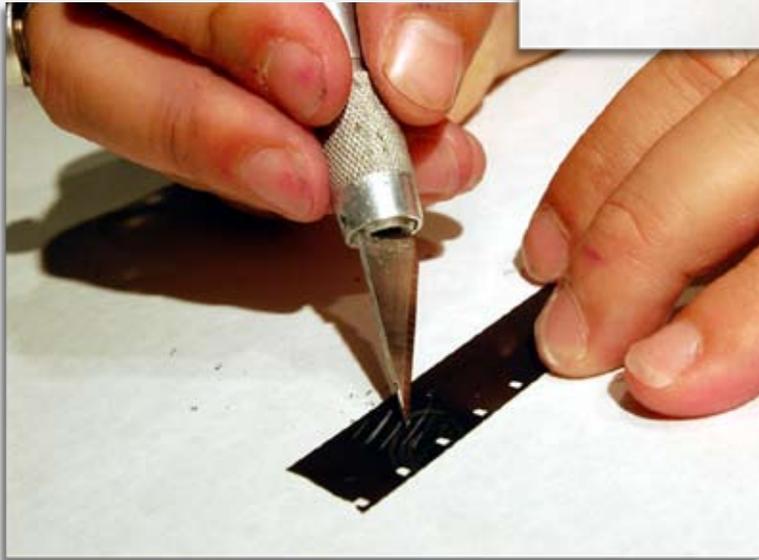
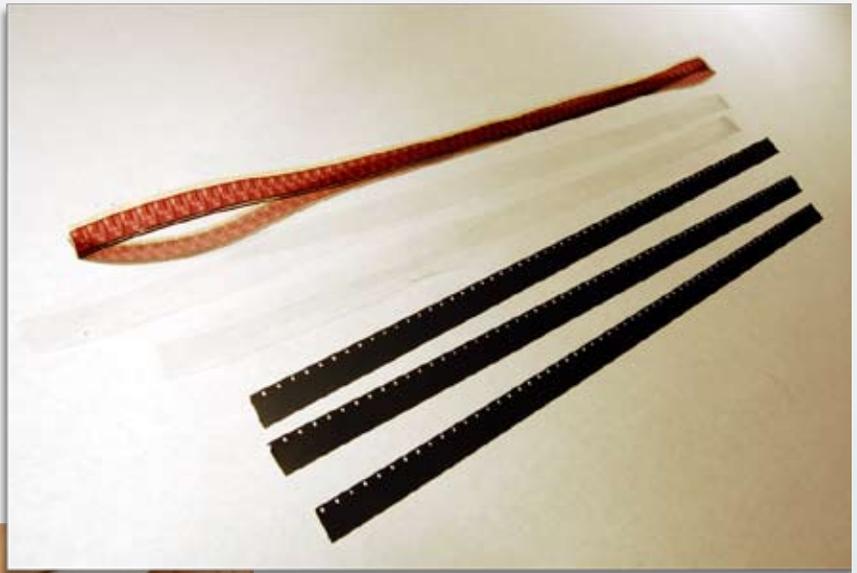
- 16 mm film leader (clear and/or black),
- 16 mm splicer and splicing tape
- 16 mm projector, take up reel

Things to scratch with: dental tools, sandpaper, nails, tacks, X-ACTO blades, **Things for making marks:** Dr Martin's inks, permanent markers, Q-tips® You'll also need a clothes line and clothes pins to hang drying film, scissors, a hand lens, and butcher paper (to protect the table)

PIE Institute shares a playful and inventive approach to teaching science, art, and technology.

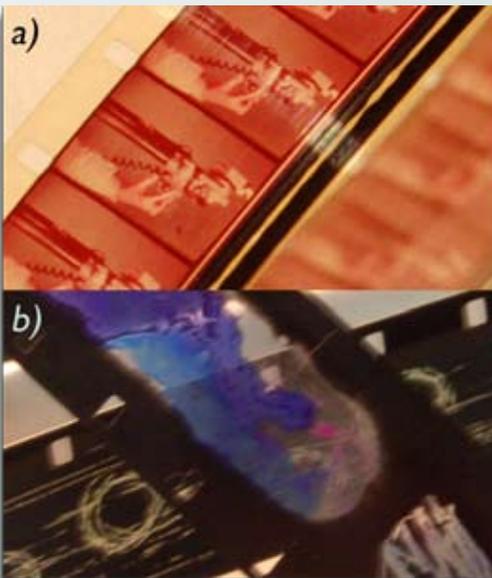
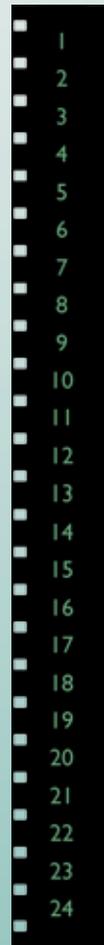
GETTING STARTED

Cut the film into several strips about three feet (1 m) long, and lay them out on a table.



Use the scratch tools to remove the emulsion of the black film leader.

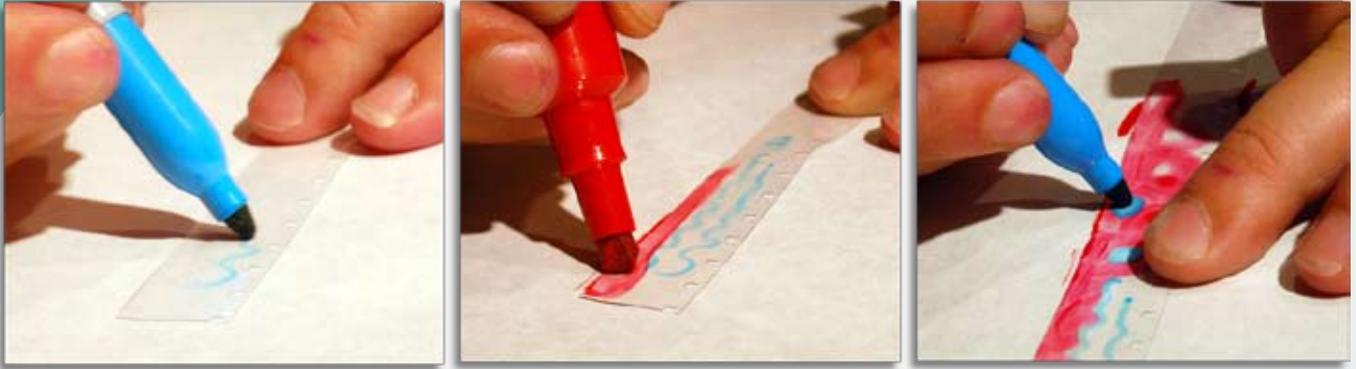
Tip:
Try to create animated marks by varying your lines slightly in each frame.
Remember, 24 frames = 1 second



Tips:

- Be careful not to break into the sprockets
 - Try large gestural marks or small individual scratches on the film
- a) Try scratching into found footage from old 16mm films
- b) Add color into the lines that have been scratched off the leader

Use ink and permanent markers to layer color onto the clear film leader



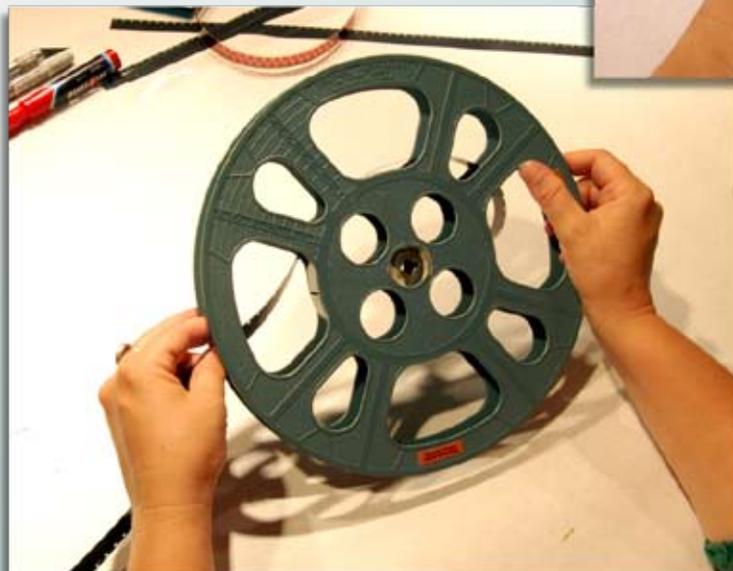
Tips:

- It sometimes take several layers of color or ink
- Rough up the surface with sandpaper so it will hold the ink
- It may take time for the inks to dry, try hanging finished pieces of film on a clothes line

Splice together the completed pieces of film.

Tip: If a sprocket hole is broken, cut it off and make a splice

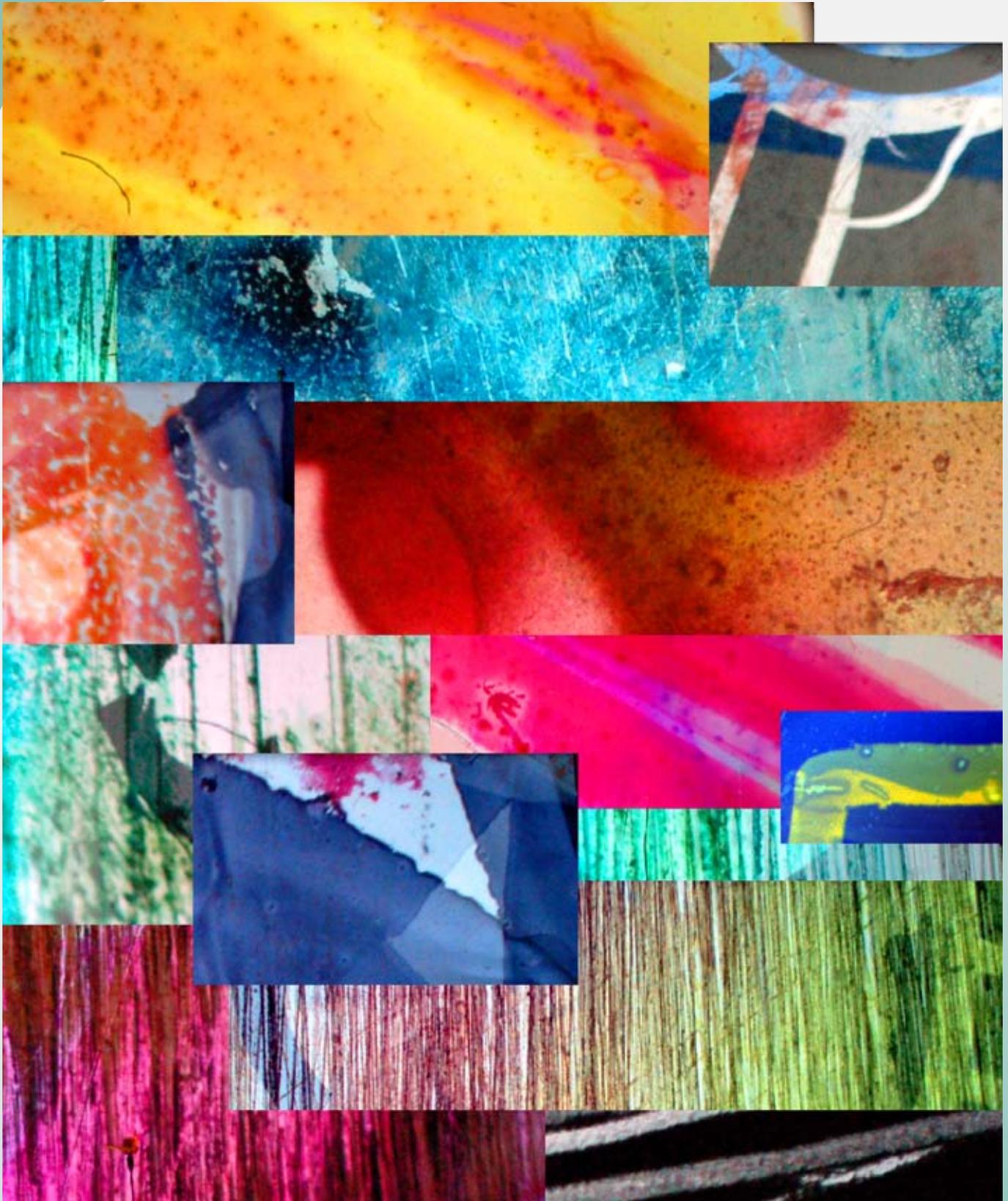
Tip: Make sure the tape doesn't clog the sprocket holes



Wind the film on a take up reel to project



DETAILS FROM SCRATCH FILM PROJECTIONS

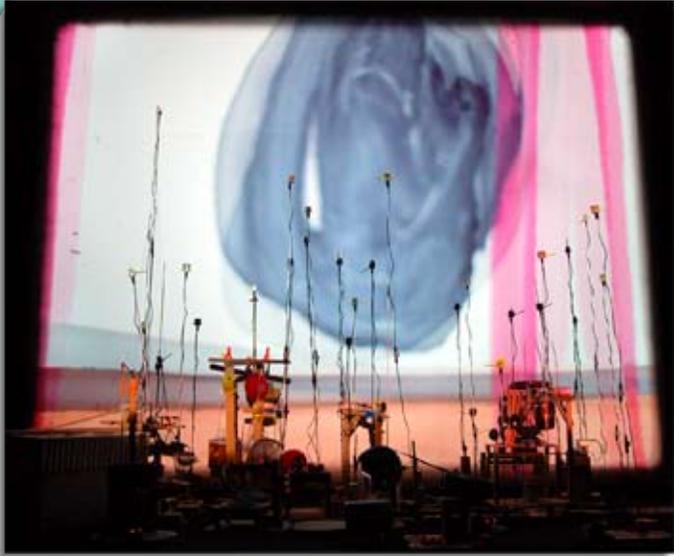


Notice the colors, textures, quality of line, and opacity of the marks.
Can you imagine how they were made?

TAKING IT FURTHER

Try the *Sound Automata* activity

(Contact us at pie@exploratorium.edu for a link to the *Sound Automata* PDF)



Project your completed scratch film on sound automata, hand made noise-making machines that respond to the light from the film to create a live soundtrack.

WHY IS THIS A PLAYFUL AND INVENTIVE EXPLORATION?

Playful and Inventive

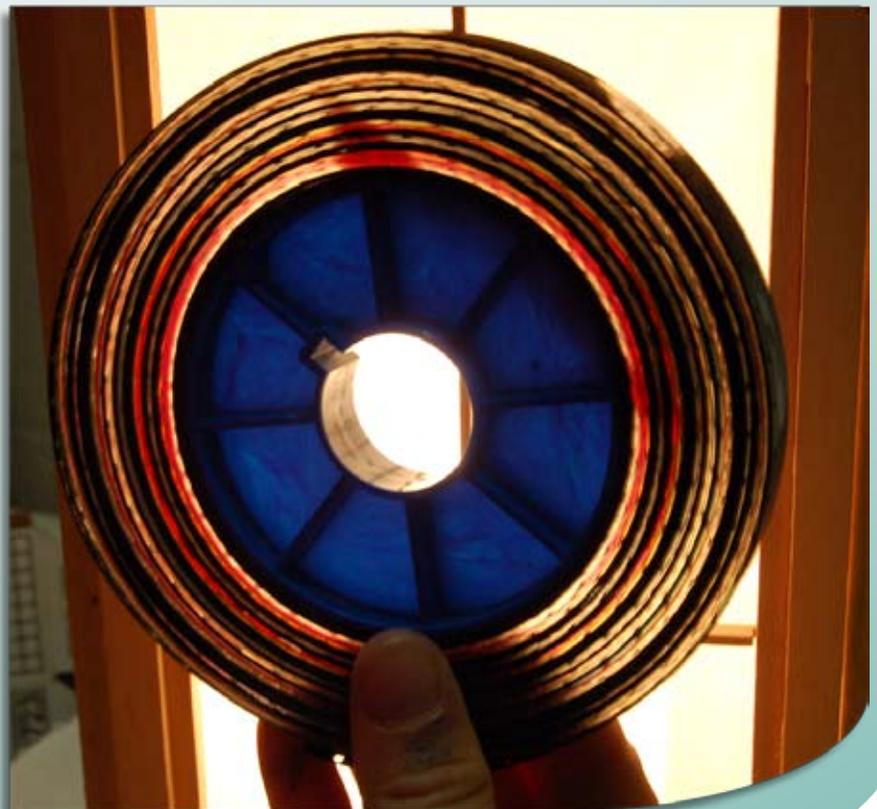
This is a playful and inventive way of making a handmade movie.

Science and Art Connections

This is a good activity to explore the scientific ideas of persistence of vision, light and color, and the artistic connections to direct animation and filmmaking.

Collaboration

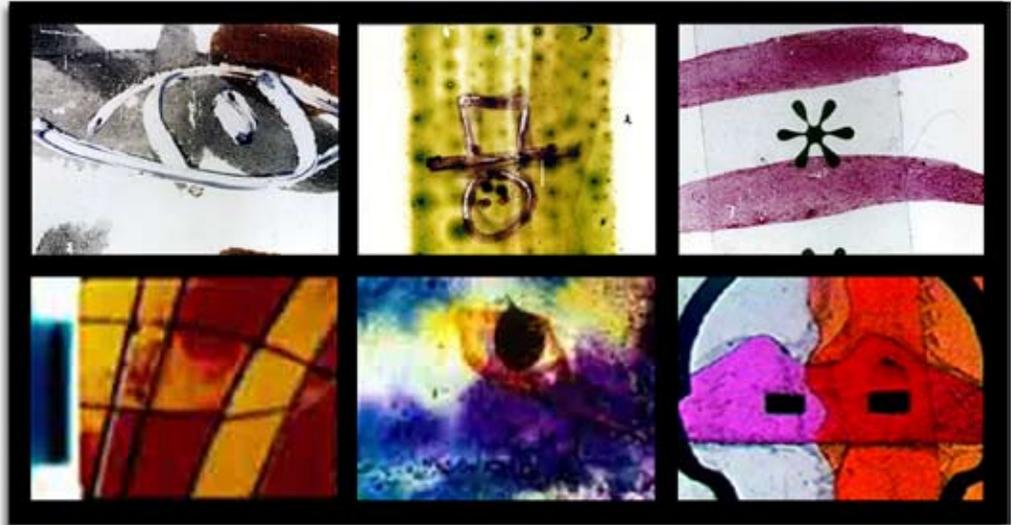
Individual elements of the scratch film are ultimately linked together to create a collective work of art.



RELATED IDEAS

SCRATCH FILM JUNKIES

The Scratch Film Junkies is a workshop collaborative that explores the possibilities of handmade, camera-less, digital filmmaking.



“Digital” refers to the filmmakers’ digits (fingers). The Scratch Film Junkies meet once a week in the Mission District of San Francisco to manipulate film one frame at a time.



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