

INTRODUCTION TO SCREEN PRINTING

Screen printing is a great introduction to the art of printmaking. Printmaking was originally a form of communication before becoming an art form. With the advent of the printing press, art prints began to be valued as originals and in the 19th century artists began producing limited edition prints.

This handout is intended to introduce the beginner printmaker to the basic steps of screen printing. All the supplies listed are readily available and have been used with success by beginners, educators and "pros" alike. With a bit of practice, you too can make great silkscreen prints.

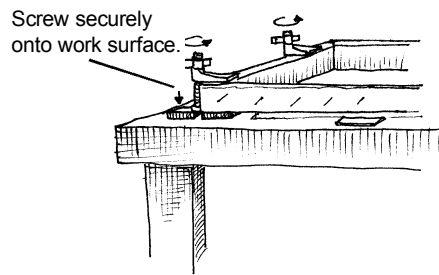
Materials:

- Pre-stretched silk screen(s)
- Squeegee
- Screen printing hinge clamps
- Waterproof tape (1" wide)
- Self-adhesive stencil material
- Screen printing ink
- Strips of card or poster board
- Small scrub brush & household detergent
- X-Acto knife
- Containers
- Old or disposable spoons
- Pencils or pens
- Drawing and Printmaking Paper
- Old towels, rags or paper towels
- Rubber gloves and protective clothing
- Hair dryer
- Cord or clothesline
- Bulldog clips and clothes pins
- Screen Block Fluid

GETTING STARTED

Ideally you will need a large work space for silk screen printing which allows room for inks, screens, and hanging or laying out your finished prints to dry. You will also need access to hot and cold running water, ventilation and a good light source.

To begin, lay out newspapers or plastic to protect your work surface. If you are planning to hang your prints up to dry, string a clothesline and have enough



clothes pins handy to accommodate the number of prints you will be producing.

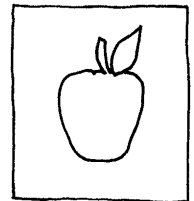
At this stage, you can also set up your work surface by attaching the hinge

clamps to a board or directly to the table top. You will need these when you are ready to begin printing.

CREATING YOUR STENCIL

The most basic form of screen printing is using stencils attached to the outside of your screen. If this is your first time screen printing, choose a simple image which will use only one or two colours in the printing process. After you become comfortable with screen printing, you can experiment with more complicated imagery and additional colours.

Design your image directly on a thick piece of paper or special stencil paper, which will be cut into a stencil, or design your image on a piece of paper to be transferred to a specialty stencil paper or adhesive masking film. Keep in mind that a stencil cut from regular drawing paper won't last.



Tip: When image orientation is important, be sure your stencil is adhered the right way around for printing. This is particularly important if using an adhesive stencil paper, or letters and numbers, as your stencil can only be adhered to your screen one way.

With all stencils, remember that the parts of the image which you cut away will allow ink through the screen and onto the paper. The parts of the stencil which are left, will block out the ink and take on the colour of the paper.

If a multiple colour print is desired, a simple design is easier to process for two to three colour printing. You can either block out design areas on a single stencil as you print each colour, or you can prepare two screens with two different stencils, each

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using a different colour.

Before you begin cutting your stencil, try colouring it in or numbering the areas you want to cut away to help you envision the final print.

Registration is necessary when using multiple colours in a print to ensure that your colours will line up correctly and to prevent different colours from overlapping when this is not desired. Registration will also prevent a reas of the paper from showing through colours that are intended to overlap. An easy solution for registration is discussed on page 3 of this handout.

Once you are comfortable with basic screen printing you can consult a book for more complex images, methods and techniques.

Cutting Your Stencil

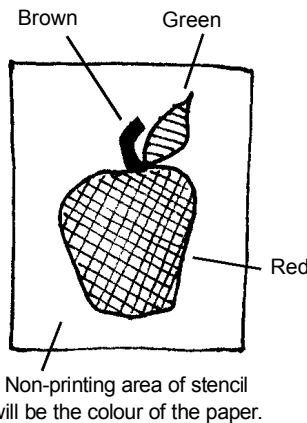
After you have prepared your artwork, you can cut your artwork as is or transfer your work on to a sheet of stencil paper. To transfer it, simply use carbon or transfer paper. When cutting your stencil keep in mind that clean lines will produce a sharp image. We suggest using a quality sharp blade such as a #1 X-Acto knife to make your cutting easier.

Tip: Move the stencil material under the knife, as you cut, to make clean lines easier to achieve.

Mask-Ease is a common two part vinyl and adhesive stencil material used for screen printing. Cut your stencil from the sheet of vinyl and then apply the transfer sheet of weak adhesive.

Flip your stencil to remove the liner from the vinyl sheet.

Apply the adhesive side of the vinyl with even pressure to the outside of your screen. When using stencil material, be sure to read through the manufacturer's instructions before use.



SCREEN PREPARATION

Although pre-stretched screens are ready to use, you should always clean your screen with a scrub brush and detergent before use. This will eliminate any soil that may have deposited on the screen during manufacture, transport or storage. Be sure to dry the screen thoroughly as your stencil material will not stick to your screen if it is damp. You can use a hair dryer to speed up the drying process if desired. Adhere the stencil to the outside of your clean, dry screen and apply enough pressure to ensure that the stencil is well-adhered. Next, using a water-resistant tape approximately 1.5" wide, run it along the inside of the screen. Position the tape so that half is on the screen itself, and half is on the screen frame. This border of tape will keep your screen printing ink from seeping between the edges of your screen and frame and in effect ruining your print.

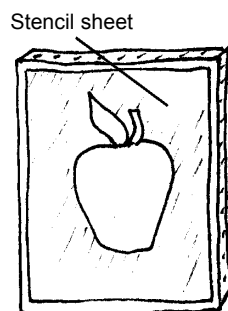
Note: This step will reduce the printable area of the screen, and your design should be sized for this final set of dimensions. Rub or burnish the tape well to ensure proper adhesion.

Next, set the screen up for printing by attaching it to your printing base with hinge clamps. The screen must be placed with the flattest (or outside) side of the screen down. The base can either be a table top or a wooden board that is sufficiently thick to fit the clamp. The board also needs to be heavy enough to remain stable while the screen is being raised and lowered.

PRINTING & REGISTRATION

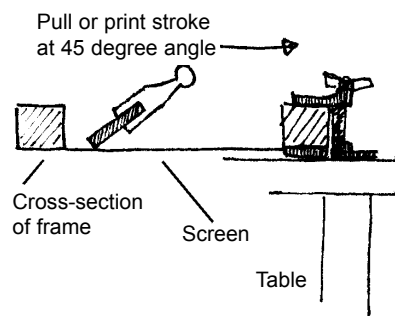
Be sure to have all of your necessary materials and equipment in place before you start printing. If you are using colours straight from their containers, it is a good idea to transfer a portion of each colour you want to use to other containers to avoid potential contamination of the unused ink.

Next, place a couple of spoonfuls of screen printing ink across the bottom edge of the screen, closest to you. With the screen lifted slightly off the surface of the printing base, use the squeegee to pull



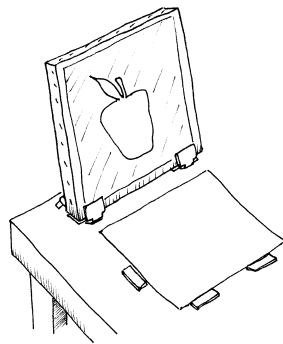
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the ink across the screen, in one stroke (away from you). Hold the squeegee at a forty-five degree angle so that only the leading edge of the rubber strip contacts the screen. This will flood the screen with printing ink. Next, prop the screen up and place a piece of test paper under the screen which has been pre-cut to the desired size. Position your paper and pull a test print to ensure that your image is centered. To make the print, lower the screen onto the paper, and pull the squeegee, again holding it at a forty-five degree angle toward you, this time with a firm single stroke.



Immediately after you pull your print and while the screen is lifted slightly, do another light flood stroke away from you, and prop the screen up. Using a flood stroke helps keep the ink from drying in the screen and blocking it.

Once the paper is correctly positioned, tape two pieces of card against the bottom of the paper, and one against the side. These pieces of card are now your registration guides and each subsequent piece of paper will be aligned with these registration guides to ensure that each print lines up correctly. This is helpful for both one colour and multiple colour printing.



Once your registration guides are set you may need to try further test prints to practice handling the squeegee, and to see whether there are any areas of your image that need changing. To make changes on your screen, you can block out areas that you no longer wish to print with tape or screen block fluid, however, if you want areas to print that are not cut out, you will have to create a new stencil and screen.

When you are ready to begin your actual print run, lower the screen, and pull the squeegee towards you. Lift, do another flood stroke. This will become a familiar rhythm of working after a while.

Following are two simple options for working with multiple colour prints:

1. If you are using a design with clearly separated colour areas, the screen can be prepared for a second colour by simply blocking out areas that you do not want to print. This blocking out is done before printing the first colour to reserve areas for the second colour. You can use either masking tape on the underside of the screen, or screen block fluid on top of the screen. Screen block fluid is harder to remove and if the screen is to be reused, you might want to stick with masking tape for this process. Use the registration guides to make sure the prints are aligned when making the second print run.

2. You can also choose to create a new screen and stencil for each colour you want to print. Or, you can use the same screen, using a new stencil but being sure to clean and dry it before using a new colour. This is useful for images where colour areas will overlap, and therefore cannot be simply blocked out during printing. Registration between screens is important with this method.

Another way to make registration easier with more complex images is to create your stencils with a slight tolerance where colour overlaps. For example, a stencil with a red circle and a black outline a round it could be cut so that the red circle is slightly bigger than intended. Print the red circle first, knowing that the opaque black ink will cover the red area of tolerance. This will help to ensure that no distracting gaps will appear between the red and black design areas. Although the colours actually overlap they will appear to just be printed cleanly – side by side.

To test your second colour, place a test print from the first colour run under the screen prepared with the stencil which has been cut for the second colour run. Make your print and check for accuracy of registration. If there are gaps between areas that should butt against each other, or colours overlapping in areas where they shouldn't, realign the screen and try again. Do this until the image is registered to your satisfaction. You can then proceed with the second colour print run.

As screen printing inks are available in both opaque and transparent colours, it is important to plan the order of your colours for printing accordingly. If

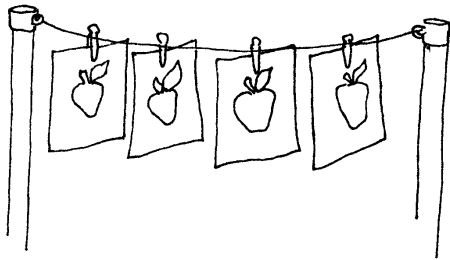
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the second colour you print is opaque, it will cover the previous colour, or if it is transparent it will create a new colour.

When you have finished your run or edition of prints, clean the screen and other equipment immediately. This is especially important when using permanent or acrylic screen printing ink, as it will ruin the screen if allowed to dry.

DRYING

Place all prints in a safe place to dry. Although many screen printing inks that are available now are water-based and quick drying, it is still necessary to



provide proper drying time to reduce the possibility of smearing. Print racks are often too expensive for most people printing in a home studio or work space, so it is best to make sure ahead of time that you have plenty of space to either spread the prints out as they dry, or create a clothesline effect with clothes pins or bull dog clips to hang the prints from. In the case of a

really large edition, the first prints should be dry by the time the later ones are being made. It will then be possible to stack them to clear the space for more screen prints.

Tip: Always make sure that the first colour is dry before printing the second colour, when printing multiple coloured prints.

NOTES:



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