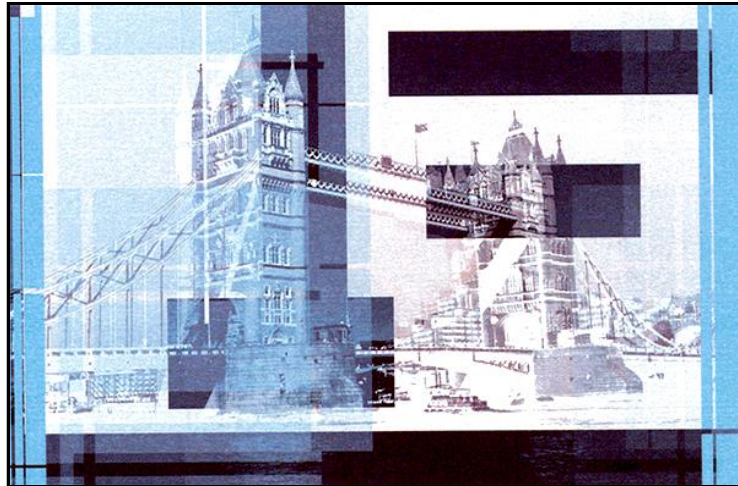# Digital Kit: *Digital to Chemical*

Create a digital negative from your own digital photograph and then make a cyanotype print!

Tower Bridge – Luca M Damiani, 2015 / Digital to Chemical, Composited Printing Technique

Explore the magic of photographic image-making from digital to chemical with the help of artist and illustrator Luca Damiani!

With *Digital to Chemical* you can print your photographs in a unique way, creating alternative artwork from your own digital images. This is a tool-kit that will allow you to experiment with photography and learn how to make a digital photograph into a chemical one!
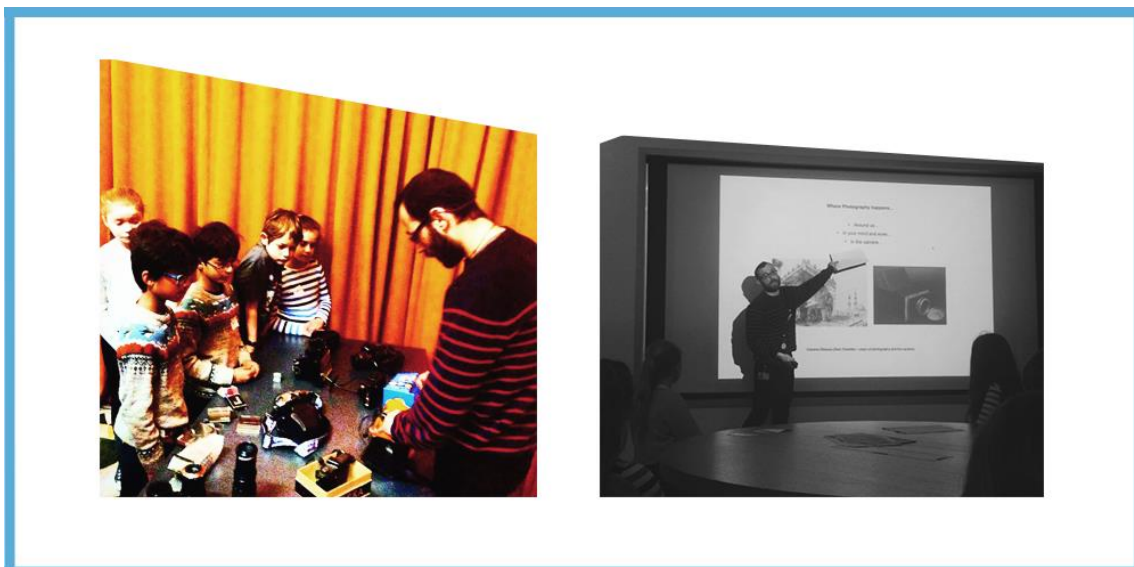
First, like all great artists, you need to do a little bit of research!

Do you know what a photograph is?

Do you know what a negative looks like?

Do you know what cyanotype printing means?

Here I am doing some research….

TATE

The process of making your very own photos includes lots of different stages. Below are the basics:

- Take a digital photograph – snap snap snap away!
- Download your photograph into your computer
- Open the image with a photo-retouching software
- Create a digital negative of your image
- Print on acetate paper
- Place your acetate paper on top of a sun-print sheet
- Expose to sun-light
- Develop the print

BOOM. That's it!

What you'll need: a computer and photo-retouching software; printer and acetate sheets; sun-paper for cyanotype prints; a water tray; some additional sheets of thick-paper and cardboard.
Allow yourself some time (and patience!) while you work on this project. You don't need to rush it - have fun!

Let's go!

Step 1: Before we start working, create a folder "*MyPhotograph*" on your desktop. This is important as that folder will contain and collect your material!


Step 2: Choose a photograph that you would like to create via our alternative printing technique. If you don't know what you would like to take a photo of, go for a walk and look around you! Discover and play with new ideas, then take some good photographs to be used later.
This is me wandering around London with my camera….
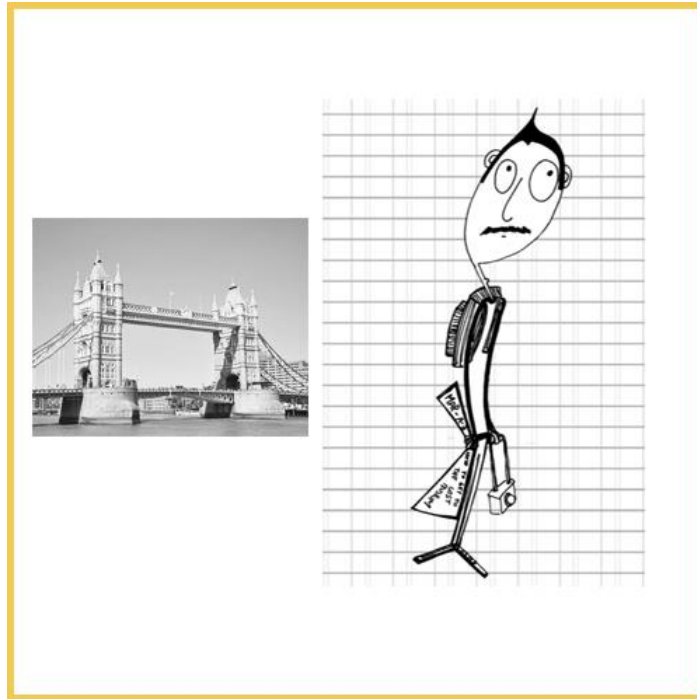
Step 3: Download and copy your chosen digital photograph into your folder. No worries, you can print one now, and another one later on, and then another one, and another one..!
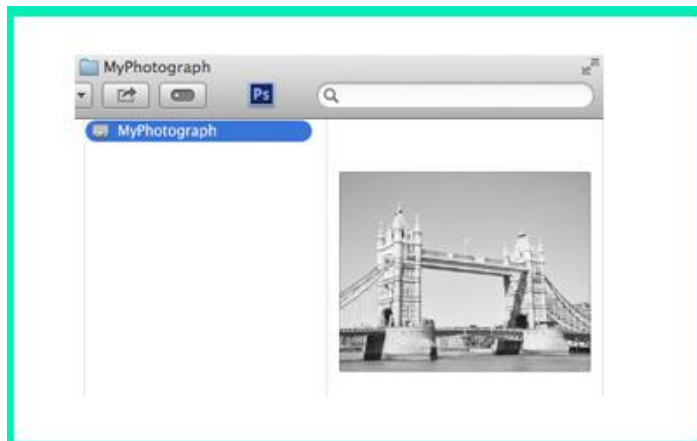

Step 4: It is now time to create a digital negative from your image. Why do you think this is necessary? Chat with your friends or ask you family; see if someone knows what a photo-negative is and how to make it digitally!

Step 5: Open Photoshop or any other software for digital image-making you might have. Once your software is ready, go to "File → Open" and then select your original image from your *MyPhotograph* folder. You will have something like this:
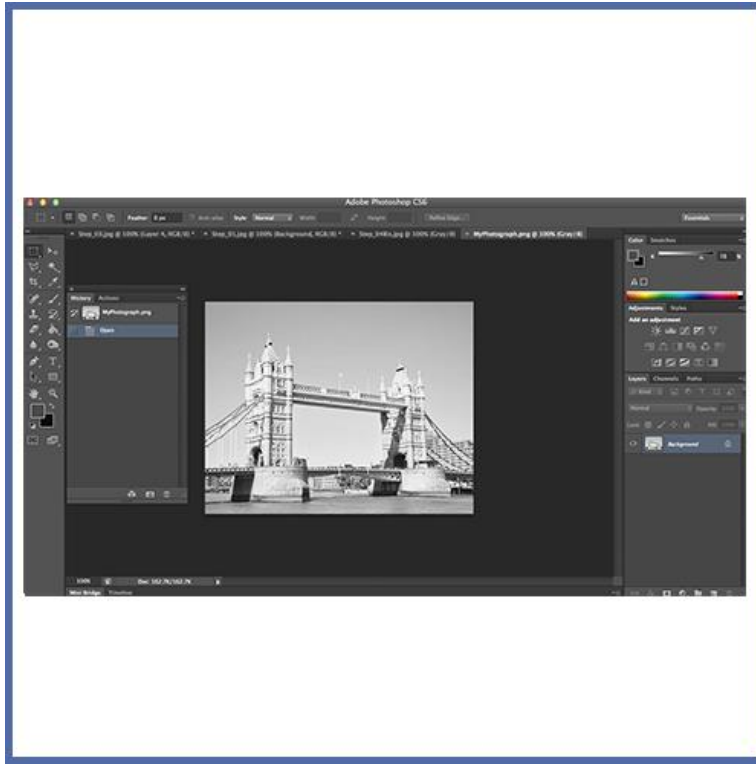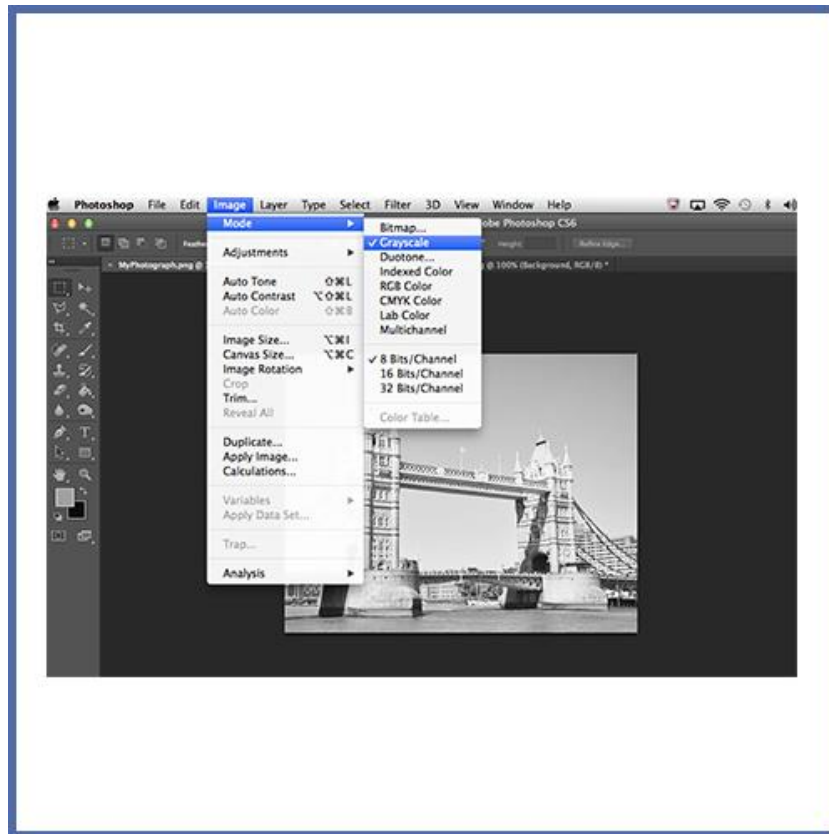
Step 6: I believe you might know how to use the basic tools of Photoshop – if not, ask your art teacher or parent for some help! We'll try as much as possible to help you. You now need to edit the photograph in order to make the digital negative of it. Below are the various stages of this editing:
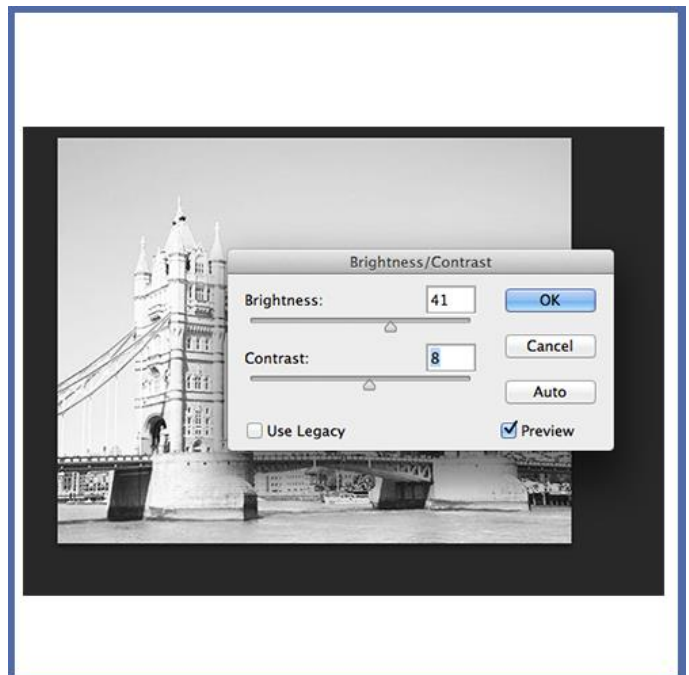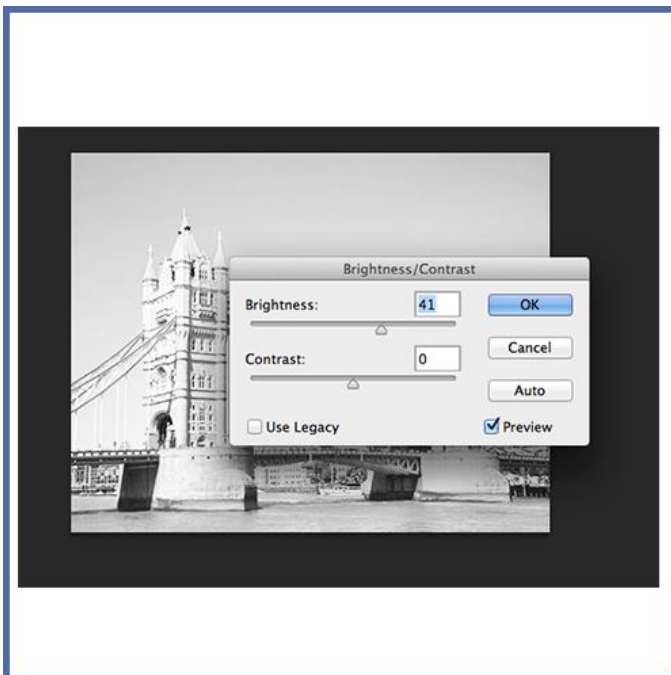
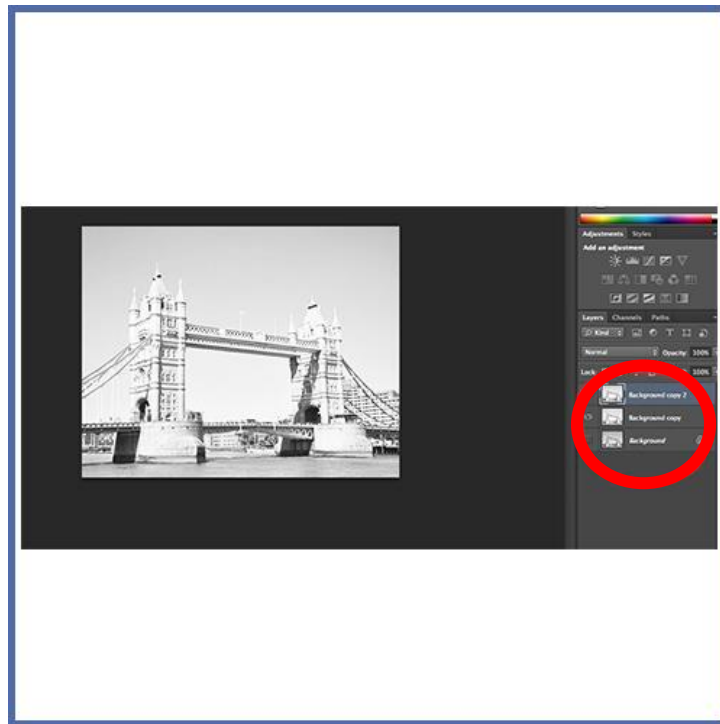6.1 Duplicate the Photograph in a new Layer

TATE
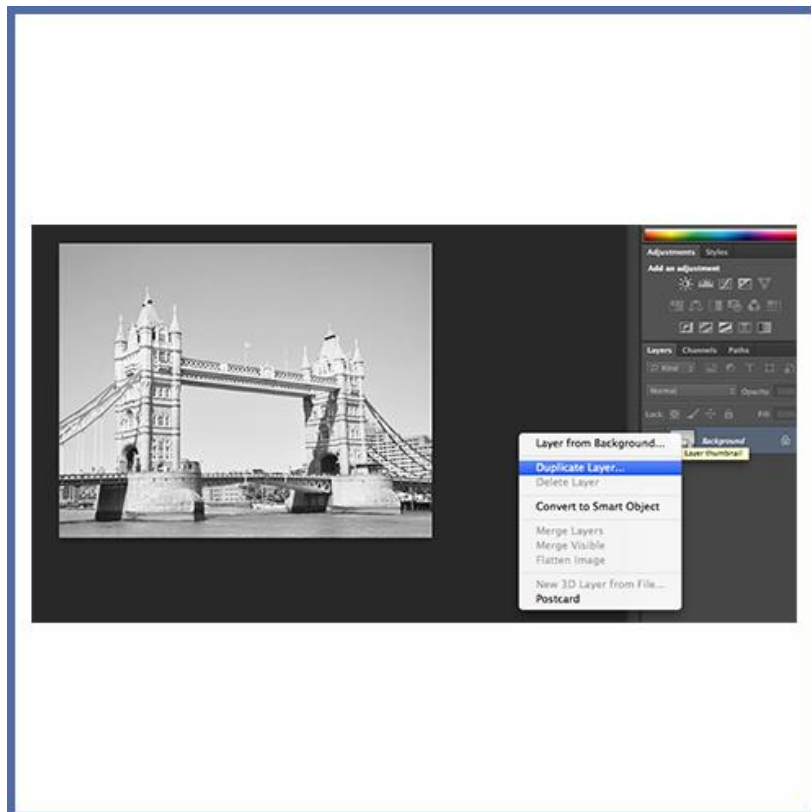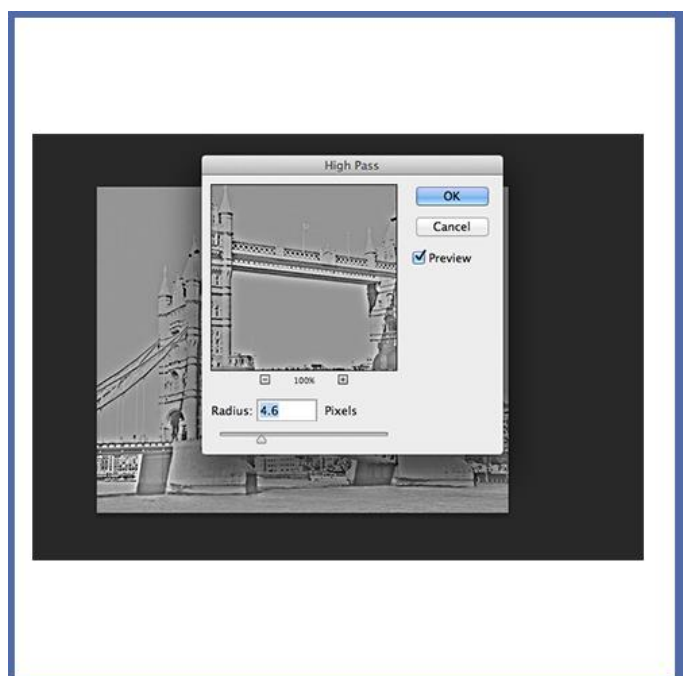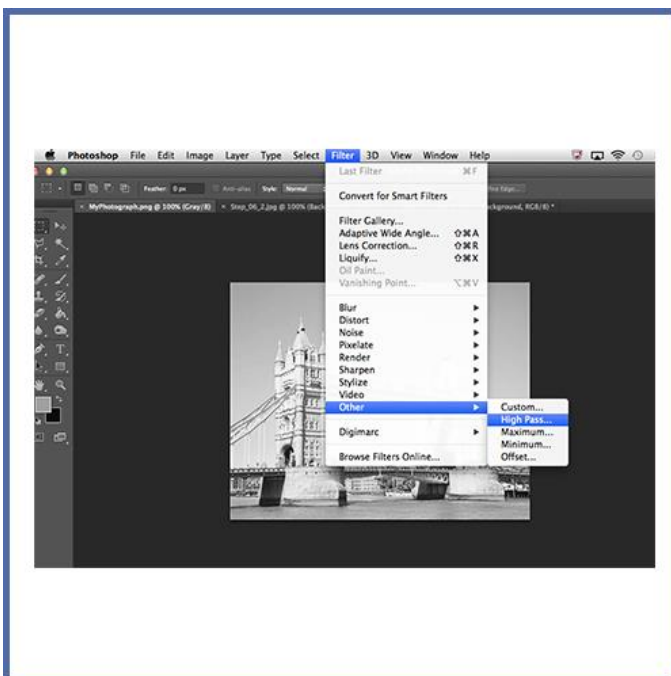
6.2 Grayscale the Photograph

6.3 Adjust Contrast and Brightness
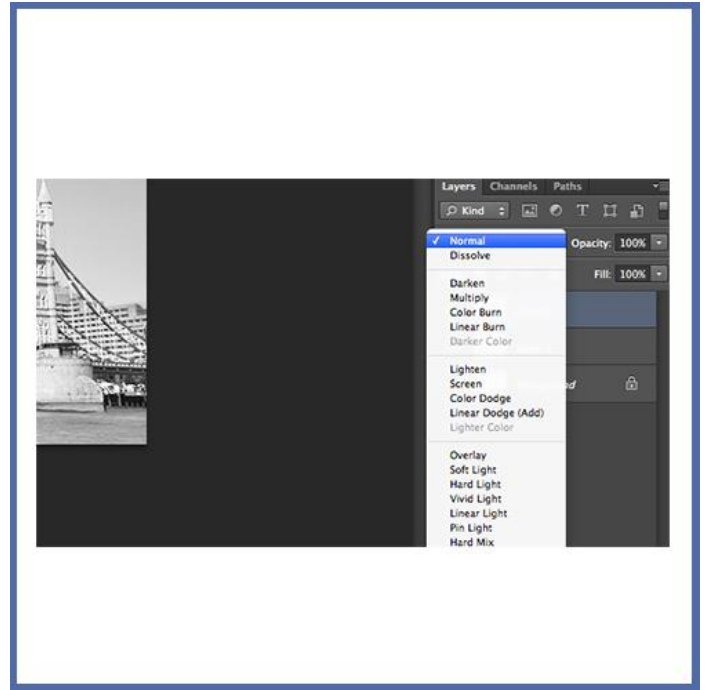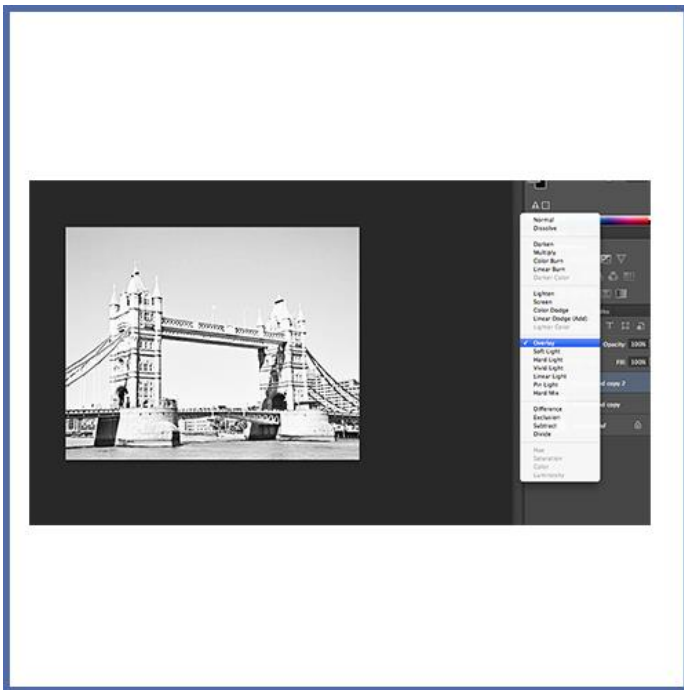

TATE

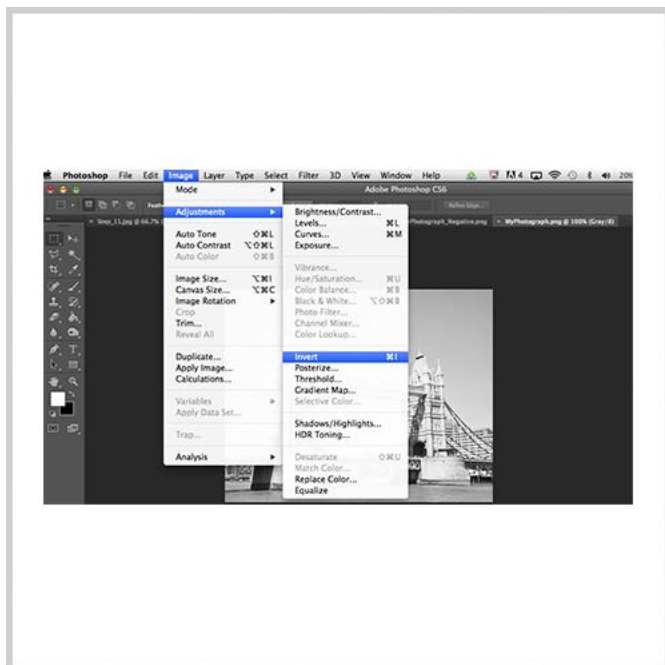6.4 Duplicate the Layer, like instep 6.2

6.5 Work with High Pass – this will make the photo sharper when you print it.

TATE

6.6 Put the Blend Mode to Overlay – so all the layers you've work on come together.
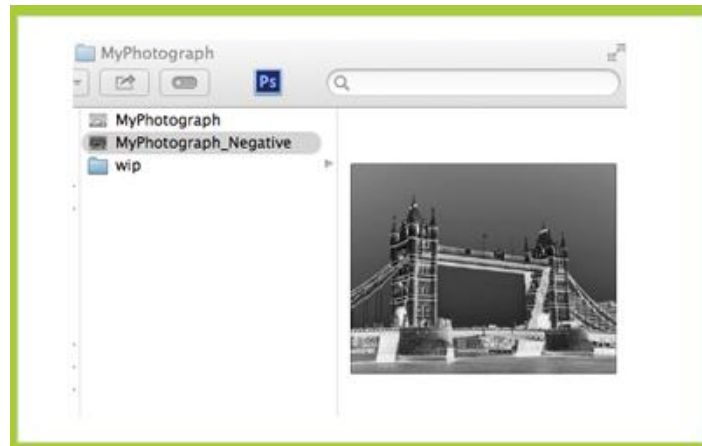

6.7 Now, merge the layers and then Invert the whole image, creating the digital negative.

Step 7: Great! You now have your digital negative almost ready! Now save it!

Go to "File → Save as" and save it as a Photoshop file first. In this way you do not lose all your hard work. Then go again to "File → Save as" and save your image as Jpg file, naming it "*YourName_MyPhotograph_Negative*".

Step 8: OK, well done! You now have your digital negative – it is time to print it! Double-click on the jpg image-file and then get ready to print it on acetate paper. It is important to do so on acetate sheets because this will allow you to have the right transparency for the coming process.

By the way, how great is the print on acetate paper – it looks amazing, doesn't it?

Step 9: Now we need to find a really dark place indoors! That's not as weird as it sounds! We could just shut all the curtains and make it as dark as possible, but what would be amazing if you make a real dark room! Ask an adult what one is or go online and check out other photographer's darkrooms.

TATE

You can work in almost darkness, your eyes are awesome and will get used to low light really quickly.

It is time to set-up your acetate print on your sun-print blue paper. Make sure it is all well set-up and then cover it with a piece of cardboard or a thick piece of paper. Do not expose the paper to sun-light at this point.

Step 10: We are almost there! Now, go outside. Hopefully it is a sunny day, but it will work also on a rainy day, no worries. Take off the covering cardboard layer, and expose the rest to the sun-light. Leave it for a few minutes – you can check the reaction of the sun-paper quickly looking underneath the acetate sheet. If it is a sunny day, it might take a minute or two (depending also from the contrasts in your photograph) or even 10-15 minutes on a dark cloudy day! It is a magical process, you are fully dependent from the sun-light, so lots of patience will help! The blue-paper will change colour, going toward white – do not leave it for too long, try to keep a good balance in your image. Enjoy the process and hopefully also the weather...!

Step 11: Once you are happy with the reaction of your blue-paper, cover it again. Now, go indoors and (again in the almost darkness) take your blue-paper sheet and put in a tray of water. You will see that a new reaction will happen. This will be the inversing effect on colours and the water will become a bit blue, taking out some of the chemicals present in the cyanotype sheet. Move the tray slowly, right and left, in order to give and create an effect of current water. Leave the sheet immersed in water for a couple of minutes.
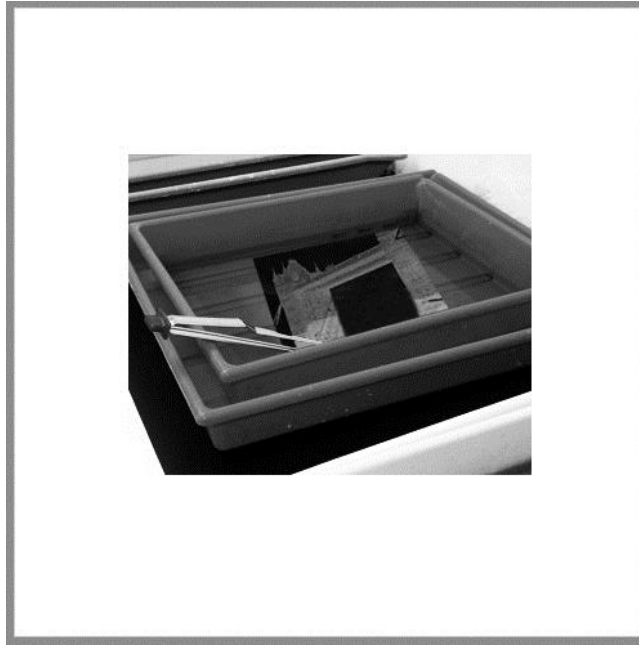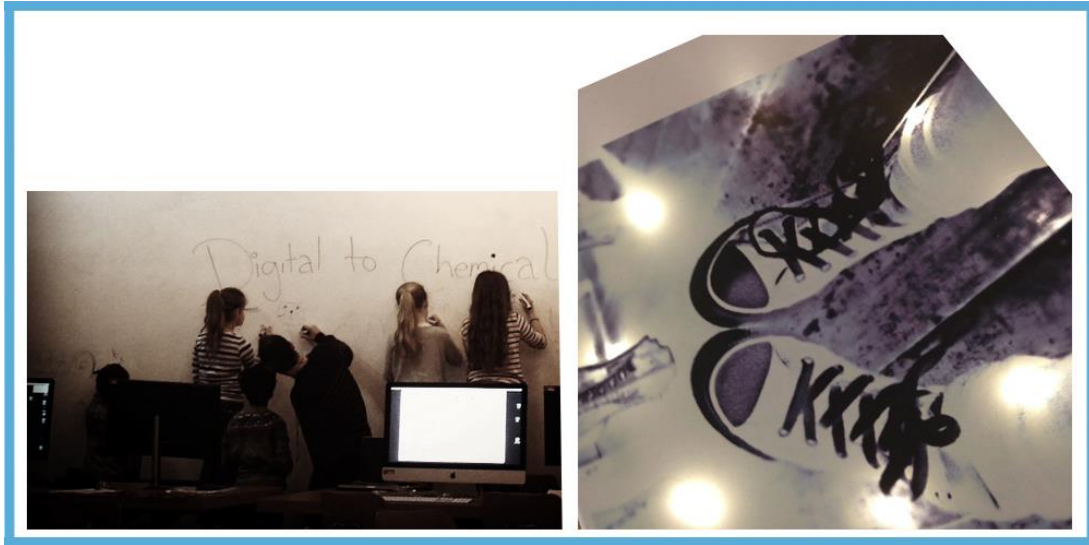
Step 12: Now, another further step! Take the print (which at this point will be completely wet!) and put it to dry out. It might take 10 to 20 minutes; wrap the print in some absorbing paper and let it rest for a while.

Step 13: Voila'! All done. I hope you got an exciting result! And if you haven't, no worries, try again!
If the paper is crumpled a bit, put a book on top to flatten it out.

Step 14: It is now time to frame your magical creation. You can now proudly put your artwork up on the wall of your house! Remember to sign it, like the artist you are!

Experiment with your photographs – play with shapes and forms; play with shadows and reflections; try different kinds of exposure to the sun-light, explore all the possible outputs you can get!! You can also add drawings and mix techniques for interesting results! And most importantly, mistakes are key elements for new discoveries, so take them as a good and productive part of the process!

TATE

Here are some pictures of kids at Tate making their cyanotype prints!

TATE