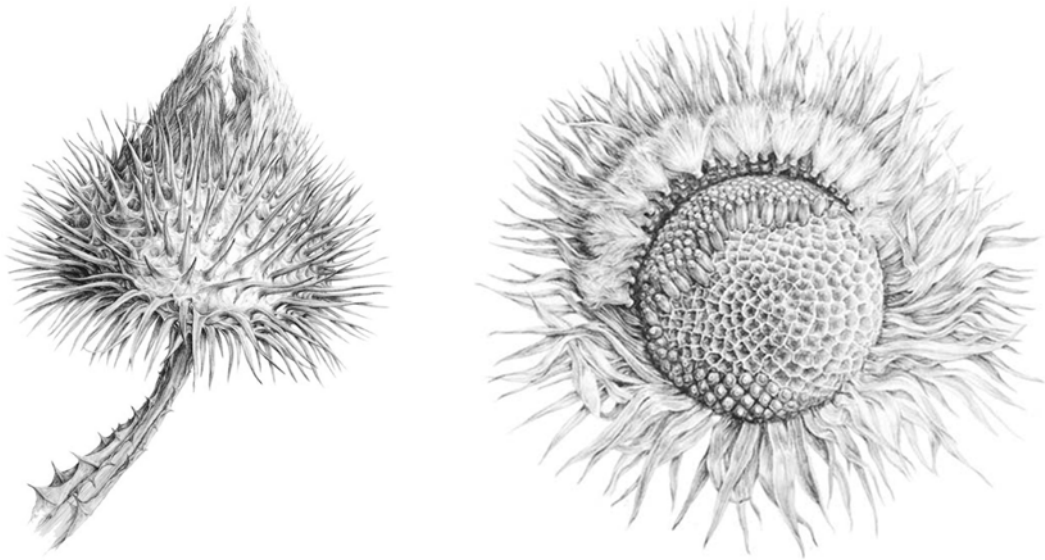


Dianne Sutherland | Botanical Art Online Botanical Illustration| Part 1.Drawing with Graphite

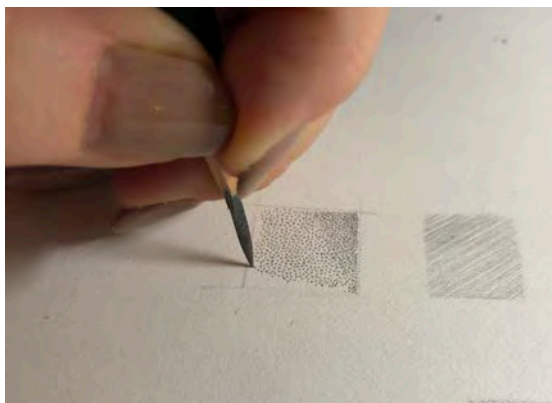


Onopordum acanthum , Scots Thistle seed-head by Dianne Sutherland

Good drawing underpins all of your work, if the drawing isn't correct the painting will always be flawed. Take your time and enjoy working with pencil.....it's a beautiful and honest medium.

'Drawing is the basis of all art. A bad painter can-not draw but one who draws well can always paint'.

Frederick Frank (1909 - 2006)



Introducing Graphite

Line Drawing: The ability to draw with line and to produce accurate drawings underpins botanical illustration, so no matter how good the tonal work or watercolour is, if the basic drawing is flawed, the work is spoiled. Therefore, line drawing is the first basic skill that must be

Form: is created in a drawing by interpreting the way that light hits a subject by using a range of pencils with different grades to replicate the different tonal values found within a subject. A successful drawing using tone gives a subject a realistic 3 dimensional shape.

Part 1 Graphite Outcomes:

- Learn about and complete line drawings as portraits
- Learn about tone, form and lighting: understanding form
- Create a reference tonal strip: how to use pencil grades
- Use tone to create the impression of 3 dimensional shapes and subjects
- Explore different shading techniques and complete drawings using shading techniques

Part 2 Graphite Outcomes:

- Create preparatory study page
- Complete a full tonal botanical drawing of a subject of your choice.



Equipment and Materials for Graphite

You already have a suggested materials list but here is some additional information:

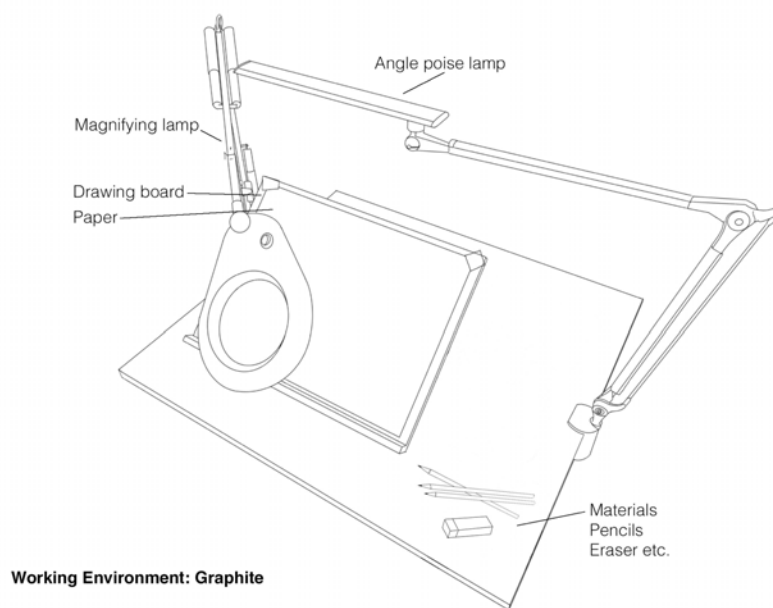
- Any good quality smooth paper, a HP (hot pressed) watercolour paper 140lbs, e.g. Arches satine, Moulin de Roy, Stonehenge Aqua or a smooth heavyweight sketchbook paper such as Winsor & Newton 100lbs or Bristol board, such as Strathmore. You may also complete preparatory work in a sketchbook, such as the Stillman & Birn Zeta series. I suggest that you try a few sample papers as paper choice differs between artists
- A range of good quality pencils grades 4H to 8B, such as: Faber Castell 9000 series, Caran'd Aches, Mitsibushi Hi - Uni or Staedtler Mars Lumograph. Be aware that grades vary between different manufacturers, so it is important to stick to one brand to create your work. You may also find a mechanical pencil useful for line drawing, such, as the Pentel Orenz with 0.2mm or 0.3mm lead
- A putty eraser, such as Winsor & Newton, medium kneaded putty or hard eraser such as a dust free eraser or retractable Tombow Mono Zero, which allows you to reach small spaces
- A good pencil sharpener or heavy duty craft knife, scalpel and a piece of fine grade sandpaper (an emery board is good too) for fine tuning the point of the pencil
- Tracing paper to transfer preparatory drawings and to protect work in progress
- A drawing board to elevate your work, this doesn't have to be particularly sophisticated initially, wait until you find know exactly what you want before investing in more expensive equipment. A piece of mdf, slightly larger than A3 or about 19 x 22 inches will suffice for most work. Prop up the board with a box or block of wood and use a non-slip mat at the front of the board
- A magnifying glass, such as a desktop clip on or hand-held approx. x2 - x 2.5 magnification
- An angle poise lamp (see guidance document on lighting)

Workspace and Setting up a Subject

Being organised within the workspace is important. You need to be comfortable, with materials at hand, you should have good lighting and have your subject clear to see.

An elevated drawing board is advisable, this allows you to see your work without the effect of perspective and prevents strain on your neck.

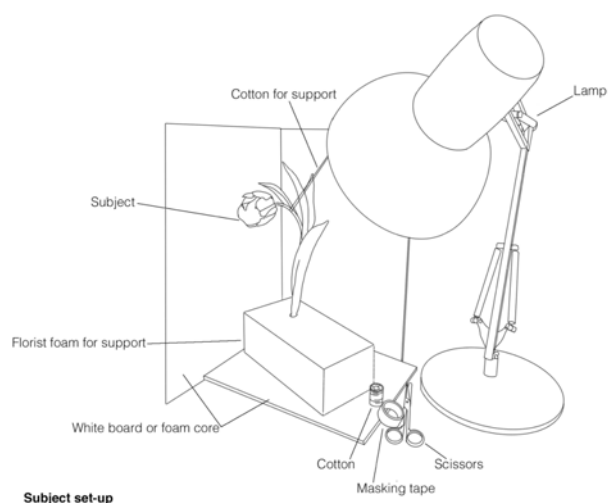
Your materials should be on the side of whichever hand you use, so if right handed on the right of the drawing board, the subject should be positioned on the opposite side, with the light source from the upper left. Below is a typical workspace. It can also be useful to position a smaller table at your righthand side for notes and reference material. If you are left handed (like me) You simply reverse this arrangement.



Right: Just one method of setting up a subject, using white foam core behind the subject.

A tulip is positioned in florist oasis and tied into position with cotton for drawing. How you secure a subject will vary depending on that subject.

A lamp is positioned to the right-hand side to illuminate the subject.



Part 1. Graphite

Basic Graphite Exercises Drawing Continuous Lines

Being able to draw continuous smooth lines is important in botanical art because it gives a clean and precise edge to the drawing. Continuous lines are achieved by keeping the pencil in contact with the paper, wherever possible, this doesn't mean that you can't lift it at all but you should aim to work with as little lifting of the pencil as possible. Quite often students feel lacking in confidence when drawing continuous lines and repeatedly lift the pencil from the paper, in a hesitant way, particularly when drawing subjects such as long curved stems, this creates an uneven line with bumps and overlaps, which are difficult to rectify. Practicing continuous lines will help you to gain control of the pencil.



Sharpen your Pencils!

Pencils should always be well sharpened. Using either a good quality sharpener or craft knife. Fine grade sandpaper or a sanding block (as shown above) can be used to obtain a finer point on the pencil.

A hand sharpened pencil with a long point will last longer, only needing a light sanding of the tip. Also, the purpose of sharpening longer leads, as shown here, prevents you from applying too much pressure on the paper because the tip of the pencil breaks if you press on too hard.

There is a short video on pencil sharpening on the website.

Exercise 1. Drawing Continuous Lines (refer to the video clip on the course website)

Aim: To understand how to control the pencil when line drawing

Using a well-sharpened HB pencil draw a series of curved lines, straight lines and shapes. Make the lines of different lengths, each line should be made without lifting the pencil from the paper.

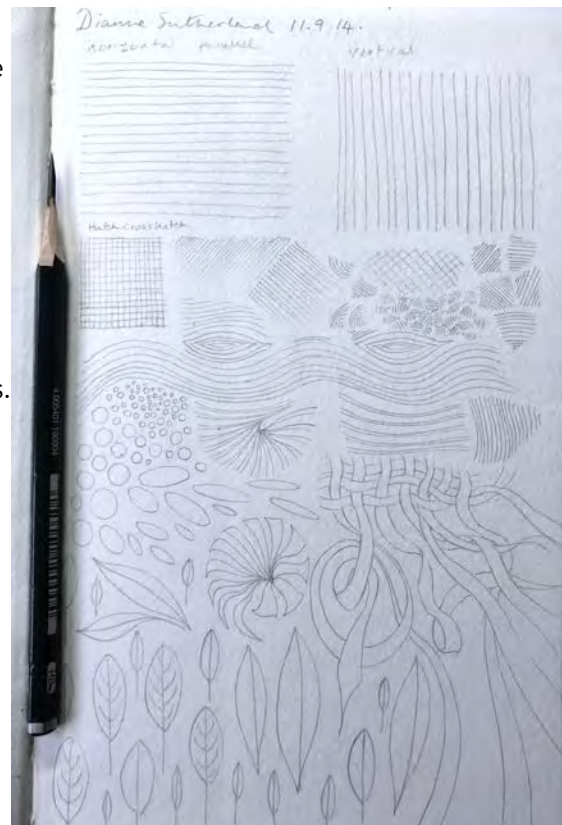
You will find it easier to draw long flowing lines by using your whole arm to draw, whereas small detail drawing is completed by movement in the hand. The image on the right shows a smooth flowing line, which is drawn without lifting, compared to a line where the pencil has been lifted.



After drawing a long flowing line, attempt to draw a second line parallel to the first, giving the impression of a stem. This will take practice but try to persevere with it.

Fill at least one A4 sheet of paper with continuous line drawings, similar to the example shown here. Attempt parallel lines to create the impression of stems, straight lines, basic shapes, such as circles and ovals and stylised leaf shapes. Don't worry if your lines are not perfect! with practice you will develop your skills. In more complicated drawings it will be necessary to lift the pencil but bear in mind that when drawing curves a better result will be achieved by maintaining contact between the pencil and paper.

Practicing this type of warm-up exercise will enable you to gain better control of your line drawings.



Exercise 2. Simple Line Drawings

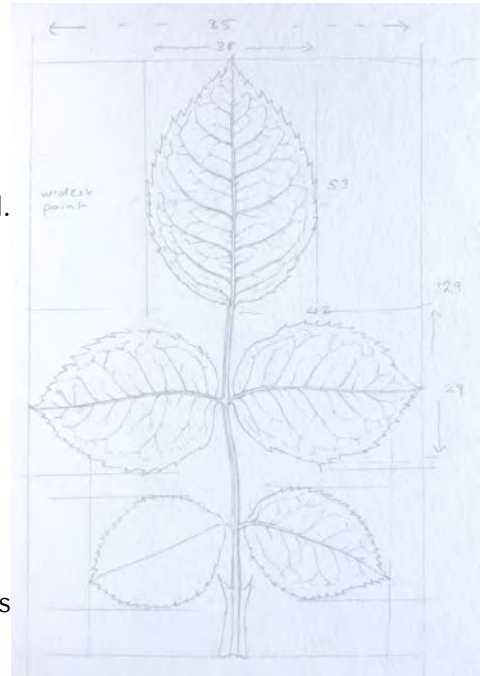
Create Four Measured Leaf Portraits

Now that you have practised drawing some simple 'continuous lines', choose four simple leaves to draw as leaf portraits.

Work using an HB pencil for this exercise, you may use a slightly harder pencil if you prefer but no harder than 2H. You can complete this work in a sketchbook or on loose paper which is an appropriate size for the leaf.

Make lightweight preparatory sketching marks first to plot the basic dimensions, these marks can be removed later.

Think about the basic shapes within the subject that you are trying to portray by identifying simple geometric shapes. Take some measurements of the subject, such as height and width. See tips on drawing leaf portraits below.



Typical measured leaf portrait of a Rose leaf

Tip for Drawing Leaves:

When drawing leaves and flowers make sure that your drawing makes sense, for example: leaf veins should be connected at the mid rib with no gaps. Remember the veins are the transport system for water and nutrients within the leaf, they are connected. Here are the key points in drawing accurate leaves.

Observe:

- Measure: the **height, width and widest point** of the leaf and leaf stalk if present
- Identify the **leaf shape** e.g. oval
- Identify what **type of venation** the leaf has, e.g. do the veins run to the leaf margin or meet before it. **Count the lateral, secondary veins** if possible and observe whether they are opposite or staggered.
- Identify the type of **leaf margin**, e.g. is it serrated or smooth
- Identify the type of **leaf tip and base**.
- Is there a leaf stalk (petiole)

Draw:

1. After measuring height and width **draw a box** to contain the leaf
2. Draw the **centre line and mid-rib**, being careful not to make the mid-rib too wide or narrow
3. Draw the petiole, often this is simply a continuation of the mid-rib, measure the width and check that it is correct
4. Draw the **outer margin** paying careful attention to any serrations, sometimes it's easier to draw an outline and then plot the serrations inside that line
5. Add the **secondary veins**, ensure that veins meet up with the mid-rib without gaps
6. Add any **tertiary veins** if present. Do not feel that you need to draw every vein, this will look un-natural, instead draw just those that are obvious to the naked eye.

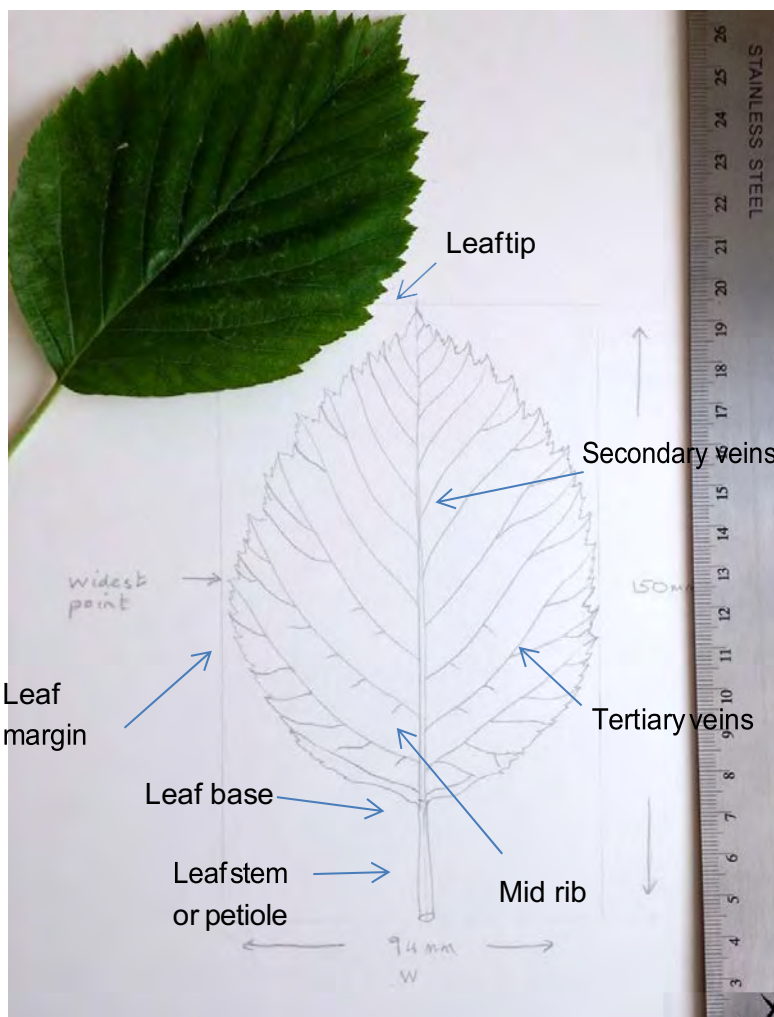


Figure 4. Example, Simple Line Drawing of a Whitebeam Leaf (*Sorbus aria*) typical notes

The leaf type is simple and oval.

The leaf margin is small toothed

There are 11 pairs of secondary veins that run to the leaf margin

Secondary veins are present

Leaf tip: pointed

Leaf base: even

Other info: Underside of leaf white and hairy

Actual leaf size:

height 120mm

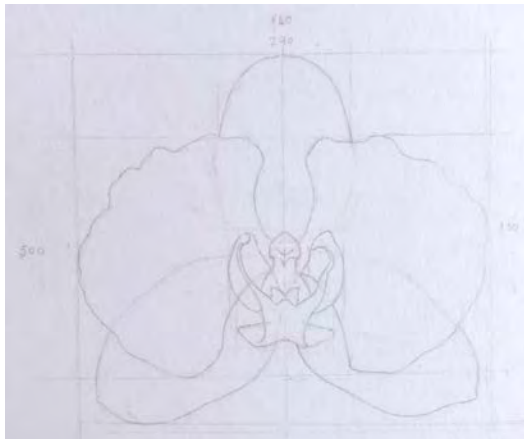
width 94 mm

Stalk length 15mm

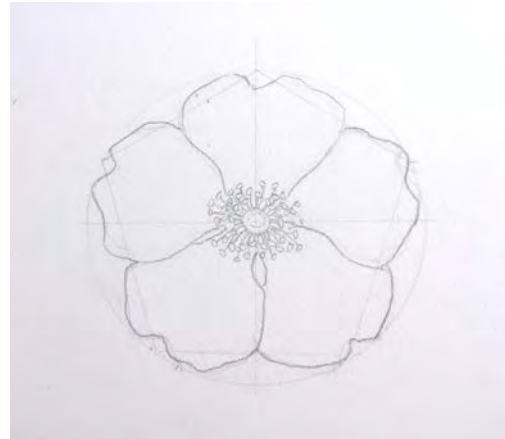
This is the type of information that you should be aware of when drawing leaves.

Exercise 2A Flower Portraits

The same principle of measuring applies to all subjects and is easily applied to simple flower portraits or profile views. Now make 2 flower portraits.



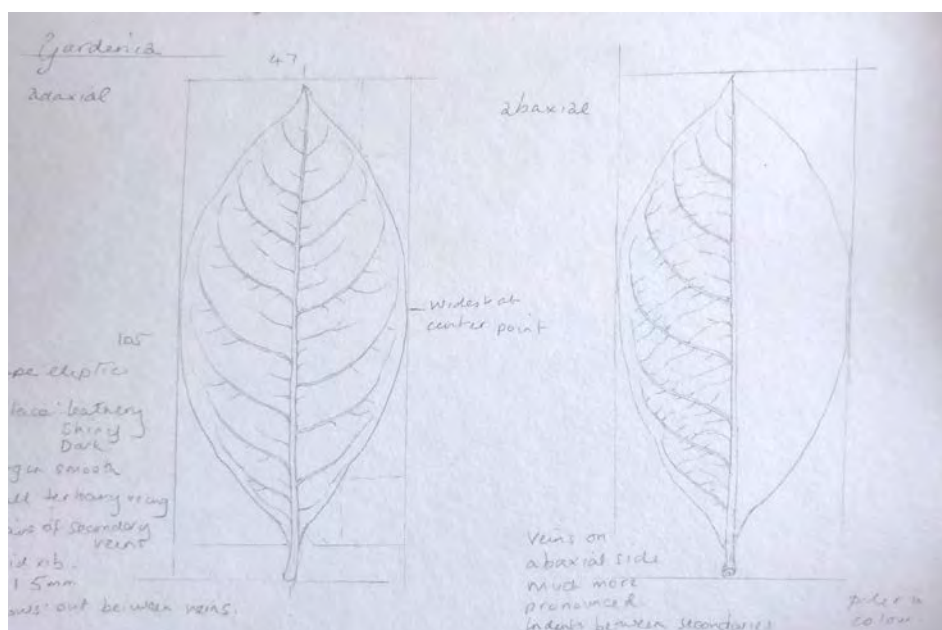
A Phalaenopsis flower portrait, this is a bilateral flower drawn by measuring all parts and plotted within a lightly drawn box and measurements of all petals and parts.



A single rose is drawn within a measured circle because it's height and width are equal, a cross is drawn through the centre. Thereafter, a pentagon with equal sides is used to plot the position of the five petals.

Optional Suggested Activities

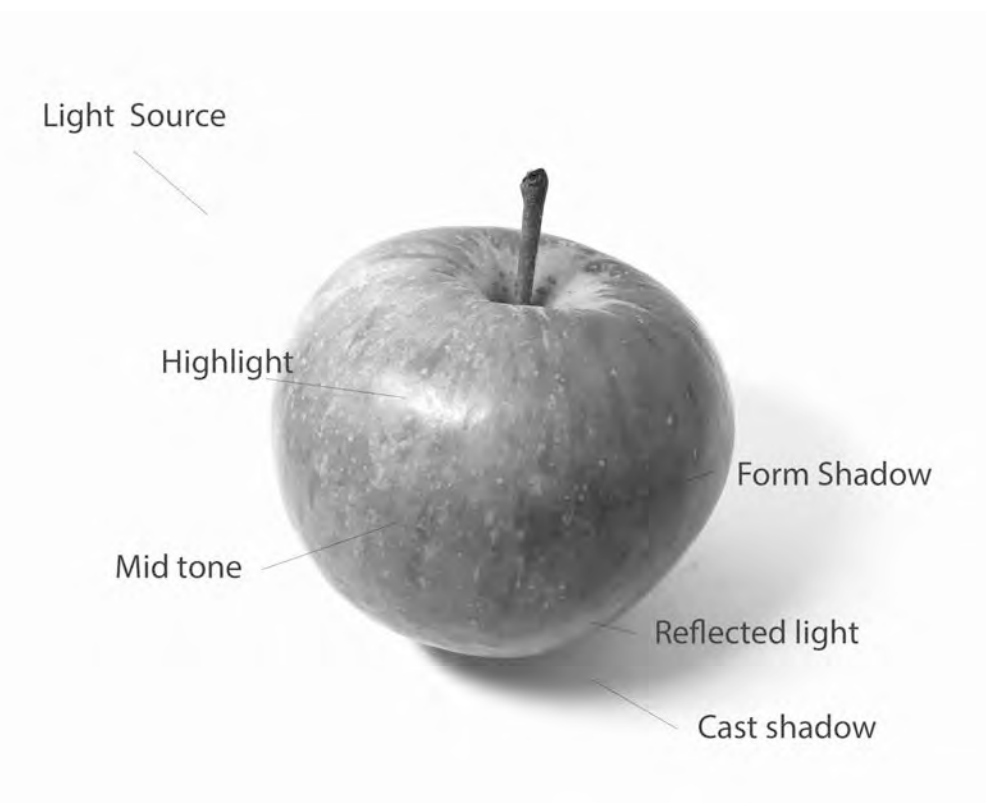
Gradually build up a leaf and flower library sketchbook, Start with simple leaves and follow with compound leaves. This will be an invaluable resource and you can add to it over time to build your botanical knowledge. Below shows a typical sketchbook entry, showing a front and back view of a Gardenia leaf.



Observation and Lighting

Light and shade is one of the most important areas of learning for botanical art students. The way that the light falls on a subject creates volume. Therefore, before moving on to tonal drawing and form we need to spend some time observing and understanding what creates different tonal values in a subject. In order to understand tonal values we need to think about the form (shape) and the way that it interacts with a light source.

If you take a black and white photograph of a subject using a directional light source, with a light positioned shining onto the upper front left side of the subject, you will see that the subject has a range of tonal values; firstly the **highlights**, which is where the light catches the subject most dramatically and the effect bleaches out tone, we can often leave this area white when shading. The **mid tones** are all light to medium grey tones and cover a large area. The **dark tones** are on the **shade side** of the subjects **and this creates form shadows**, which are dark grey. When a subject is lit in this way you can usually see some **reflected light** too. Reflected light is the light that bounces off other nearby surfaces onto your subject, it is always darker than the highlight but is lighter than the most shaded areas of the subject. In this case it sits beneath the form shadow.



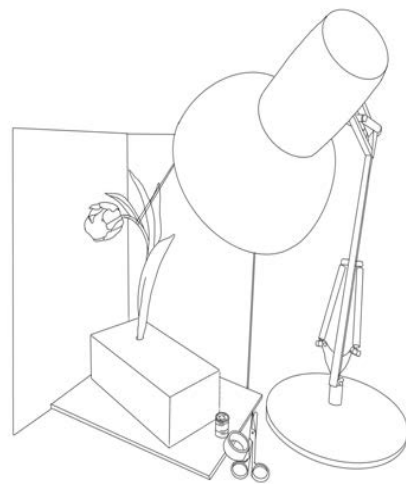
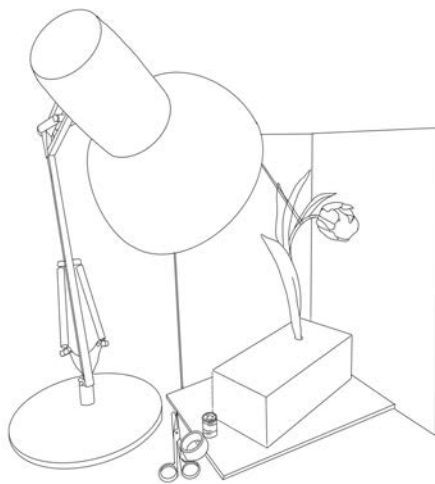
Above: An apple lit from the upper front left-hand side, showing the effect of light hitting the subject and the shade it creates as the curve of the form bends away from the light. Without directional lighting, everything would be mid tone and looks flat.

Note: You should always light your subject using one source of directional light, preferably using a full spectrum daylight bulb. This is a bulb that has a K (Kelvin) rating of around 5,500K, which is the nearest to white daylight.

To avoid working in your own light, **right handed artists should light the subject from the left hand side, whereas left handed students should light the subject from the right side.**

Practice setting up a subject and photographing it, this can help you to identify the light and shade in your subject, remember DO NOT use a flash on the camera because this will flood the subject with light and you will not be able to see the light and shade.

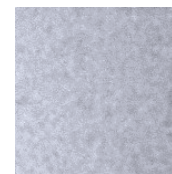
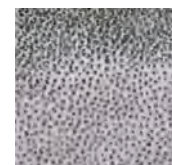
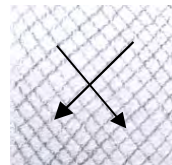
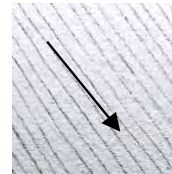
We will revisit light, shade and form again later in the course.



Introducing Shading Techniques

There are a number of basic techniques that can be used for shading and these are different ways of adding tone to a subject. You should familiarise yourself with all of them:

1. **Hatching** - a technique using diagonal lines in one direction.
On an actual subject the lines can be used to contour around the curve of a subject. They can be positioned closer together for a darker appearance.
2. **Cross hatching** - diagonal lines that cross over. Can be used in multiple directions and to contour a subject, again, by positioning the cross hatching closer together, darker tones can be achieved.
3. **Stippling** - creates tone by using a series of dots using the point of the pencil and holding the pencil at a more upright at an angle, which is approaching a 90° angle between the paper and pencil position. Increasing the density of the dots creates darker tonal values.
4. **Non directional shading or continuous tone** - a smooth even finish is achieved by using a light touch and the pencil strokes using a small elliptical motion, holding the pencil at 45° or more. This is the technique most commonly used in tonal botanical drawings. If you find the finish is not smooth and even, work over it again as this will gently work the graphite into the paper surface.



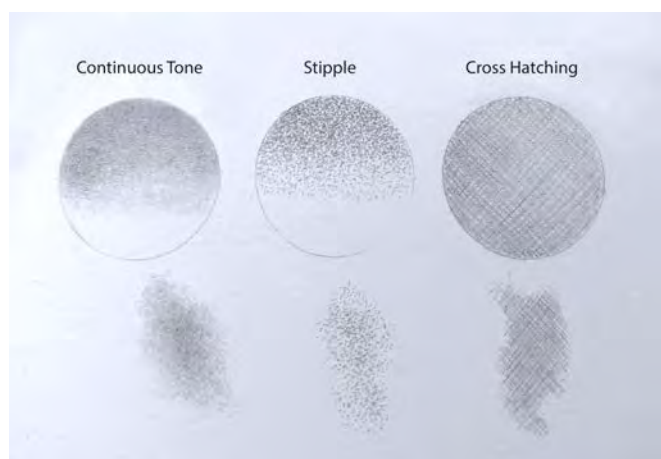
Exercise 3. Shading Techniques

Complete a small square or circle (approximately 1.5cm in size) shading using an HB pencil for each of the described shading techniques, as follows:

1. Hatching
2. Cross Hatching
3. Stippling
4. Continuous tone

You may combine the hatching and cross hatching into one example if you wish, as shown here.

Watch the video on 'Shading Techniques' to assist you in completing this exercise.

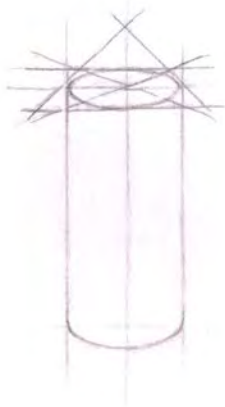


Exercise 4. Creating Form Using

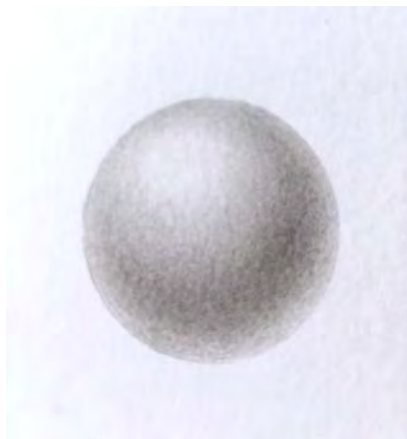
Shading: Drawing and Rendering Shapes

Shading is used to create form by rendering with a pencil. In this exercise you will draw various shapes and render them into 3 dimensional looking forms by using shading. These shapes are commonly found within nature and include, sphere, cone and a cylinder.

Start by drawing the shapes. In the same way as with the leaf portraits, symmetry and measuring is used to draw the shapes. For example, when drawing a cylinder, draw two parallel lines and an upper and lower line to box the shape in, plotting a centre line allows you to maintain symmetry. The curve of ellipse at the top should mirror the curve at the bottom. Check the shape looks accurate before adding tone. Below you can see the initial drawing and with the addition of continuous tone shading with the light source from the left-hand side.



Now watch the video 'Understanding Form' and create a tonal drawing of each of the shapes, using the continuous tone technique.



Exercise 5. Create a Tonal Test Strip

A tonal test strip will help you to understand the difference between hard (H) and soft (B) grades of pencil, it can be kept as a reference for future drawings to identify which pencil grades should be used to achieve the desired tonal values in your drawing.

Use the continuous tone method of shading to complete the tonal strip using a range of pencils from 2H to 6B (you may add more grades if you wish).



Each square should be a minimum of 1cm x 1cm and should demonstrate gradual gradation from the lighter hard grades to the darker soft grades

**2H****H****HB****F****B****2B****3B****4B**

Exercise 6. Putting the Shading Techniques into Practice

In this final section you will make your first tonal drawings of actual subjects by putting the shading techniques into practice. In the example a garlic bulb has been used and rendered using the three shading techniques, cross-hatching, stipple and continuous tone.

This is a light toned subject and can be completed with and HB pencil for hatching and stipple, for the continuous tone example, you may use more grades to achieve the depth of tone.

Complete three drawings of a garlic bulb or similar subject, using the three shading techniques. Refer to the videos to assist you in this process.



Continuous Tone

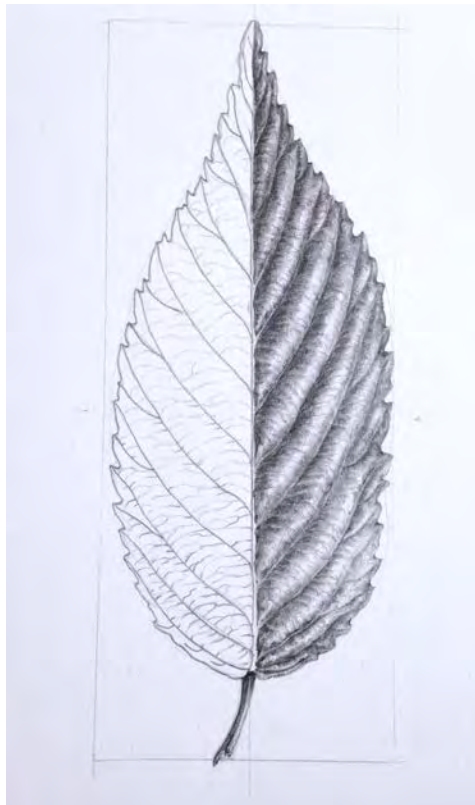
Stipple

Cross hatching

Exercise 7. Optional Tonal Drawing

You may complete one final exercise of a subject of your choice, which can be a small subject as a tonal drawing of either a leaf, flower, fruit or seed pod, using continuous tone technique and a range of suitable pencil grades, use your tonal strip to inform your decision on which grades to use.

In the example of the tulip tree seedpod below, , a 2H was used to lay the foundation. Thereafter, HB, B, 2B and 4B grades were used.



Submitting Your Work

At the end of this part of the course, you should have 7 exercises to submit. You will be emailed a folder to upload your work into. Alternatively you may email the work to

coursework@botanicalart-online.com

Reflecting on your Progress

Please answer the following questions:

At this point you should reflect on your progress. Are there any specific areas of the exercises that you found difficult or overly challenging?

Is there any help or resources that would have liked to help you with these exercises, or are the resources provided satisfactory?