

PRE AND POST VISIT ACTIVITIES

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Pre-visit Activities - page 2

Pre-visit activities are designed to help students enjoy the *Djalkiri* exhibition and assist them interpret and understand what they will see.

The *Djalkiri Exhibition Catalogue* and *Djalkiri Education Kit Project Notes* can provide information to help students and teachers learn about the *Djalkiri* project. Additional print and electronic resources are suggested to assist with student research.

Visiting the Exhibition

- Students should come with a clipboard and pencil
- Discuss the activities and exhibition upon arrival at the venue
- Ask a Gallery person to introduce the exhibition
- Provide copies of the activity for each student, where applicable
- Encourage students to talk and share ideas about what they are seeing/hearing/learning and to ask questions.
- Bring the class together towards the end of the visit to discuss questions and findings.

Post Visit Activities - page 3 - 11

These are suggested activities for the classroom that can be adapted for students of various ages and abilities and can be undertaken individually or as an ongoing unit of work.

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Rangers and artists on the Banyala flood plain



John Wolseley arrangng the composition of objects for his work Sea Wrack: Tide After Tide, Banyala

PRE-VISIT ACTIVITY

Web Search

Divide into small groups and explore the following subjects in a computer lab. Use the following websites as a starting point for researching the exhibition. Expand on the information by finding other relevant sites and making notes. Report back to the class with your findings.

1. What is printmaking?

Find out about different kinds of printmaking.

How are they done?

Find out about the etching (or intaglio) process.

Describe the different types of intaglio printing.

- Australian Print Workshop

<http://www.australianprintworkshop.com/default.asp>

- Basil Hall Editions - print making studio

<http://www.basilhalleditions.com.au>

- Crown Point Press – About printmaking

<http://www.crownpoint.com/printmaking>

- MoMa the Museum of Modern Art, New York

<http://www.moma.org/exhibitions/2001/whatisaprint/print.html>

2. Find out about the artists.

Use a map to locate the Arnhem Land region.

Find Blue Mud Bay.

What does the word Yolngu mean?

Find out about the Yolngu artists at Yirrkala Community.

What is Buku Larrnggay Mulka?

Use the following website to find out more.

- Yirrkala Art Centre - <http://www.aboriginalart.org>

Google the names of the Djalkiri artists:

Djambawa Marawili, Marrnyula Mununggurr,

Mulkun Wirrpanda, Fiona Hall, John Wolsley, Jorg Schmeisser

and Judy Watson. What kind of artists are they? Write down

something interesting about each one.

3. Find out about the 'Top End' of Australia.

What is the climate like?

What is the landscape like?

How many seasons are there?

What are the seasons called?

As a starting point visit the following websites

- Travel NT

http://en.travelnt.com/assets_static/seasons-of-kakadu/kakaduSeasons.swf

- Bureau of Meteorology

http://www.bom.gov.au/iwk/climate_culture/Indig_seasons.shtml

- Wetland Habitats Of The Top End - Michael Michie

<http://members.ozemail.com.au/~mmichie/habitat1.htm>

- Tropical Savannas Cooperative Research Centre

<http://www.savanna.org.au/nt/ah/alplants.html>

4. Find out about plants and animals found in Arnhem Land.

Make a list of some of the well known plants and animals from the Top End of Australia.

The following websites can be used as a starting point.

- Dhimurru Aboriginal Corporation

<http://www.dhimurru.com.au/default.html>

- Tropical Savannas Cooperative Research Centre

<http://www.savanna.org.au/nt/ah/alplants.html>

5. Find out about the Djalkiri Project and the people involved.

What is the project about?

Visit the following websites as a starting point.

- Nomad Art Productions

<http://www.nomadart.com.au>

- Basil Hall Editions

<http://www.basilhalleditions.com.au>

6. Find out what an ethno-botanist and an anthropologist does.

What does an ethno botanist do?

What does an anthropologist do?

Find out what a herbarium is. What do people do there?

Use the following website as a starting point.

- Northern Territory Herbarium

<http://www.nt.gov.au/nreta/wildlife/plants/index.html>

7. Find out about Indigenous protocols.

What kind of things should people be aware of when traveling to Indigenous lands and working with Indigenous Australian people?

Use the following as a starting point for your investigation.

- ABC National Broadcaster

<http://www.abc.net.au/message/proper/ethics.htm>

- NSW Board of Studies

<http://ab-ed.boardofstudies.nsw.edu.au/>

- Australia Council for the Arts http://www.australiacouncil.gov.au/publications/indigenous/visual_arts_protocols_for_producing_indigenous_australian_visual_arts

8 Find out about Arnhem Land

What kind of place is it? Who lives there? What is the history of Arnhem Land?

- East Arnhem Land Tourism Association

<http://www.ealta.org/index.html>

POST VISIT ACTIVITIES

Creating a Herbarium

The activity involves gathering, identifying, researching and preserving local plants and creating a scientific-style herbarium. Plant pressings can be bound into booklets or designed as a field guide to your local area. Visit your local herbarium. Find out about the role of herbaria nationally.

Collecting plants

First decide on rules for collecting plants, these may include the following:

- Never collect an endangered plant
- Respect other people's property when you are collecting
- Do not pick a plant until 6 are seen, and never pull one up for the roots until 10 are found

Go on a bush walk or walk in the garden. Look at the plants that are growing in the area, compare flowers, leaves and other plant parts from different species. Note plants that are similar and plants that are different to each other. Use field guides to identify plants and species.

Make collection plan. A herbarium collection usually features plants that grow naturally in a region. Decide on your purpose for collecting and pressing plants, then discuss what types of plants to gather and where to go. You can form a thematic study by focusing on specific plant categories such as bush foods and medicines, native trees or plants pollinated by bees for example.

If you want to create a field guide of the local environment or collect flowers for an art project, you need not be limited to native plants. Flattened flowers and interesting leaves can be used for art projects.

Collect the plants. Use scissors to snip flowers, leaves, or entire plants. If you are creating a scientific herbarium, you may also want to collect some roots.

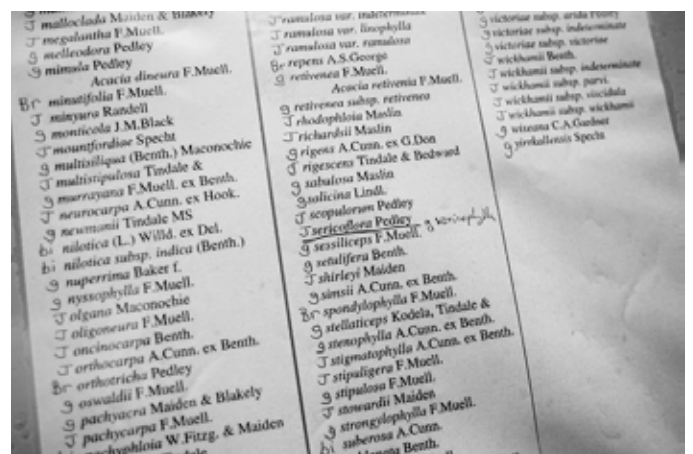
Flat flowers tend to press better than bulky ones. You may like to experiment with different types of flowers and plant parts (by removing and pressing petals of larger flowers, for instance). If plants are abundant, collect several flowers from a species so they can display front, back, and side views. Collecting flowers at different stages of bloom can also make a more interesting display.

To keep collected plants fresh put them in sealed plastic bags out of the sun. It is best to get plants in the press as soon as possible. If you need to keep them overnight, a wet paper towel in the bag will keep them from wilting too much. Alternatively press and protect plants in a phonebook or catalogue until you get back to the classroom.



Plant specimen storage at the NT Herbarium

Make field notes. If you are planning to create an herbarium or field guide, you will need to take notes. Each journal or field notebook entry may include such information as date, location, environment (e.g., amount of sun), type of growth, (herb, vine, and so on), description of seeds and/or fruits, and collector's name. You might also want to include information that may not be apparent once the plant is dried, such as original colour or aroma. Students may also make sketches and take photographs of plants in their habitats.



A list of plant varieties at the NT Herbarium

POST VISIT ACTIVITIES

Pressing the plants

Materials for a plant press

- Corrugated cardboard, sheets of newspaper, plywood or other boards, all cut to the same size
- Something to bind the stack (belt, cord, or strap)
- Weights (heavy books or bricks)

For mounting collections

- Sheets of white paper
- PVA glue
- Clear contact paper (optional)

Miscellaneous

- Scissors, field guides, binders or folders for students' collections, journals, or field notebooks. If you plan to make pressed wildflower cards, you'll need card stock paper and clear contact paper or plastic bags.

A plant press sandwiches the plants between layers of absorbent material so they will dry quickly. This is the best way to preserve specimens and colour. Although you can press plants in old phone books or catalogues, a method that enables air movement speeds up the drying process.

Arrange plants on a folded sheet or two of absorbent paper, like paper towel or newspaper. You can lay numerous flowers or plants of the same thickness on the same piece of paper, as long as they don't touch. Try to arrange flowers and other plant parts in a natural way, so their parts will be visible when pressed.

Then place the absorbent paper onto cardboard. The cardboard enables air circulation so the plants dry more quickly. Finally, place wooden boards on either side of your layered pile. Next, you'll need to bind or weight the stack to create pressure that will help the plants dry. You can tighten straps or belts around it or simply put something heavy on the stack. Some presses have screws and nuts in each corner that can be tightened to create pressure. Leave your press in a ventilated location.

Although many plants will dry adequately in a week, some may take longer. Check them each day or two and change at least the outer layer of newspaper, (delicate plants, when moist, may stick to the paper they're touching.)

Identification classification and display

Unless your pressed plants are solely intended for an art project, you may want to identify what plants you have gathered using online or printed field guides. You may want to extend initial observations to find specific characteristics listed in the field guide keys. (For instance, does the plant have opposite or alternate leaves?)



Botanical illustration at the NT Herbarium

Before mounting the pressed collections, consider the end goal. If creating classic herbaria pages, give each plant its own sheet of paper. If creating field guides, organise pages by plant families or characteristics such as colour or leaf type.

To mount the plants use PVA glue, a hot glue gun or archival tape to attach plant parts to a heavy paper.

The following websites may be helpful in this process.

- Field Guide to Australian Wildflowers
<http://www.shop.nsw.gov.au/>
- Plant Science and Botany Identification
<http://www.publish.csiro.au/nid/20/bcid/49.htm>
- Field guide to eucalypts
http://www.weedinfo.com.au/bk_fldgeuc.html
- Botanical Field Guide - Stefan Mager
<http://catalogue.nla.gov.au>
- Field guides & gardening resources specific to the ACT
<http://www.lifeinthesuburbs.net.au/content.php?id=120>

POST VISIT ACTIVITIES

Finding the key

Most field guides use dichotomous keys, which include a series of questions with only two possible answers to choose from for each question. If you want to try creating a dichotomous key, begin by dividing the plant collection into two groups based on observable characteristics (e.g., flowers or no flowers). Next take each group and choose two new alternatives. If subjective qualities are selected, such as small or large, try to be specific (e.g. leaves smaller than 10cm and leaves larger than 10cm).

The group should continue in this fashion until there is only one plant left in each category. Once these keys have been created use your categories to write a series of questions for the beginning of the field guide (Does the plant have flowers? No flowers?) to help the user identify the plants.



Making a plant database

You may like to create a computer database to catalogue the herbaria or field guide information. The database might include the following: common name, scientific name, family, student discoverer, habitat, unusual features etc. You can also scan sketches or import digital photos of the subjects into the computer. Add information based on observations made over time, such as how a plant moves from flower bud through seed and fruit.

Once the material is in the database, you can sort it in different ways, such as by plant family or native and exotic plants. Information from the database can be printed and bound and/or featured along with pressed specimens.



Top and bottom - Dr Greg Leach showing artists Fiona Hall and Judy Watson pressed specimens from the Herbarium collection. Left Glenn Wightman showing specimens from the collection to visitors.



POST VISIT ACTIVITIES

Botanical Illustration

Botanical illustration is an exacting art form that emulates the anatomy of plants to illustrate scientific descriptions and is an artistic composition as well.

Materials

- Sketch paper, hard pencils, and eraser
- Tracing paper
- Watercolour paper, watercolours and brushes
- Knife or razor blade to dissect plant material
- Fresh plant material

Discuss how accurate scientific drawings need to be. How can an artist achieve accuracy when drawing from live plant materials? Discuss how tools, such as rulers, compass, grids, photocopier and scanner can be used to help make an accurate drawing.

Collect plant materials and choose a plant for the illustration. Lay the plant or parts of the plant to form a composition. Measure and plan an arrangement of the plant material so all the parts fit on the paper while maintaining a pleasing arrangement. Pay attention to the number and type of leaves, petals, length and girth of stems (internodes) and colours. Consult leaf type diagrams and anatomy graphics. It will not be possible to show all phases of the plant simultaneously (bud, bloom, fruit). It may not be possible to show roots if plant has been cut or is in the ground.

Begin the drawing process with a hard-lead pencil onto paper. Try different drawing methods to refine the drawing. Use botanical sources for examples. Make all the necessary changes on this sheet until the drawing is satisfactory in scale, proportion, shape, and accuracy.

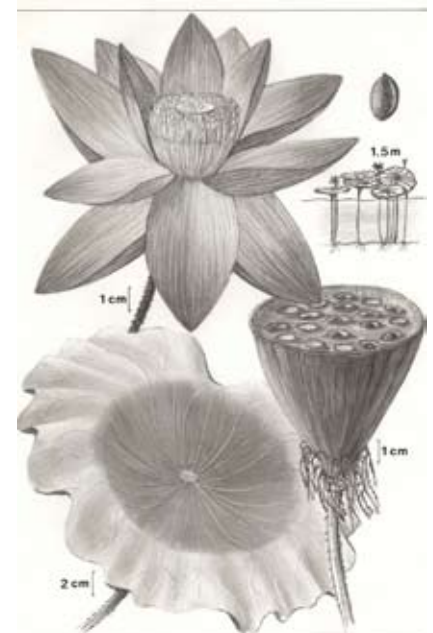
Use tracing paper to lightly transfer the drawing onto watercolour paper. Begin painting with light washes of watercolour with small brushes. Experiment with techniques for creating washes, shading, and textures. Consult botanical drawing references sources for examples.

Between the sketch and final drawing phases, compare the drawing of the plant to a written description, found either online or in a field guide. Check for accuracy, scale, and proportion. This written description can be used as label

for a display. Display them with labels telling the name of the artist, name of plant (common and Latin names), medium, date, and text description.

Try a second version of the drawing using pen and black ink. Use lines, dots to create textures and tones. Try “blowing up” a section of the illustration as a separate drawing. Use a grid to enlarge the drawing to scale.

The following images are scientific illustrations of some of the plants found in the ‘Top End’ of Australia.



Nelumbo nucifera
Lotus lily

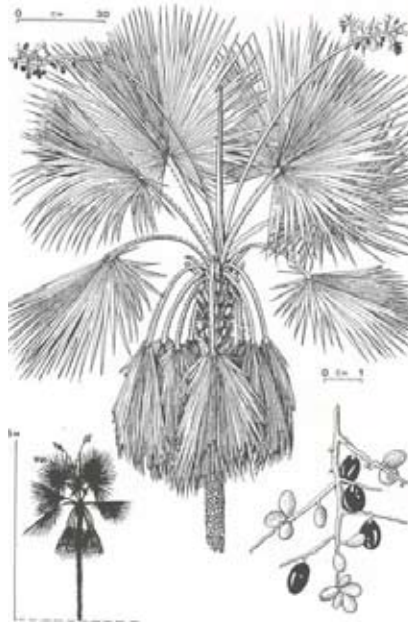


Nelumbo Nucifera
Lotus lily

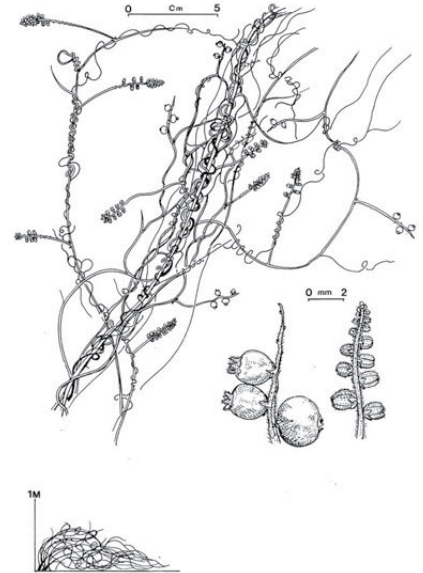
POST VISIT ACTIVITIES



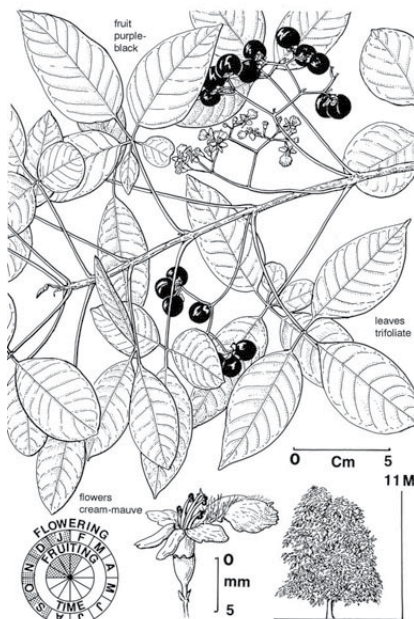
Sarga intrans
Spear grass



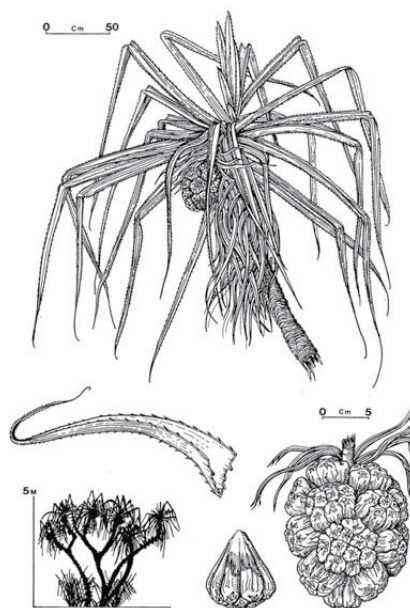
Livistona humilis
Sand palm



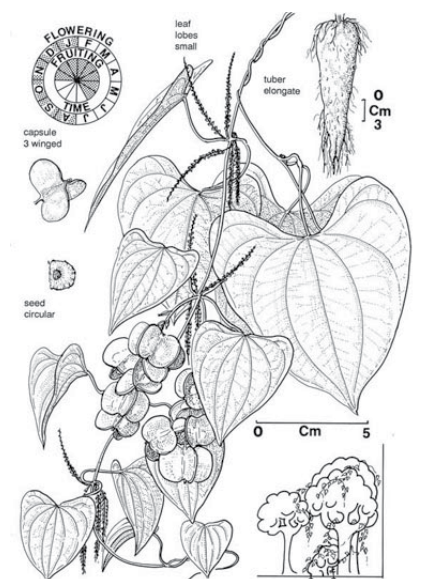
Cassytha filiformis
Curly whitegrass



Vitex glabrata
Black plum



Pandanus spiralis
Pandanus



Dioscorea Transversa
Long yam

POST VISIT ACTIVITIES

Seasonal Calendar

Start a seasonal diary in your classroom. Take some time each week to look around the school grounds. Make observations about what is occurring in your local environment. Make notes about:

- trees that are flowering and fruiting,
- birds that are nesting,
- insects hatching, and
- new plants germinating.

Collect feathers, skins, animal droppings, seeds etc.

Make a list of the birds, animals and plants in your school environment.

- Track the changes that occur.
- Record your observations.
- Make a poster showing the changes, include drawings, photographs and descriptions.

You may have access to equipment such as a rain gauge, thermometer and barometer. Record the readings each day and add the information to your data.

In Yolngu science we learn through observation. For example we observe the seasons and we see the changes in time. We watch the land and see changes in the weather patterns. In space we observe the sun and the morning star. The different stars and the moon tell us different things. Yolngu have been learning about how to read science through the moon. We've learnt to observe different cycles of the moon. It tells us when it's a good time for hunting. In different seasons different food items are ready to be eaten, like different plants. Yolngu don't just hunt for everything at once, but they go according to the different seasons. There are four seasons and Yolngu hunt according to these different seasons. Then each food source is found in abundance at the right time. We read the calendar to know for example when to go and get oysters, it also tells us when different fish is in season and when edible fruit and honey is available.

Also Yolngu sing about these different seasons. They sing about the different stars. They observe and see and learn. For generations and generations people have passed on this knowledge orally. It has never been written down. It has been orally passed down to the next generation through oral history; songs, chants and stories.

Raymattja Marika, Yolngu teacher and linguist from Arnhem Land NT

Indigenous Knowledge - Web Site Research

Living Knowledge

Indigenous Knowledge in Science Education

The Yolngu people have been living in Arnhem Land for thousands of years. They have a unique worldview that connects people to land and sea. Everything in the Yolngu world has a place in a system of relationships. Detailed knowledge of the natural world has been passed on from generation to generation through sacred clan names, songs, ceremony and designs. Today Yolngu have a rich heritage that they strive to maintain and share with other Australians.

<http://livingknowledge.anu.edu.au/index.htm>

<http://livingknowledge.anu.edu.au/learningsites/seacountry/index.htm>

Dhakiyarr vs the King

In 1933, on Woodah Island in remote north-east Arnhem Land, Dhakiyarr speared a policeman, Constable McColl, who had chained up his wife. This was Dhakiyarr's land and that was his law. On the advice of missionaries, he went to Darwin to explain his actions and his people's ways to the Northern Territory Supreme Court.

<http://www.eniar.org/pdf/dhakiyarrnotes.pdf>

12 Canoes

What 12 Canoes achieves in its breadth of knowledge, simplicity of education and seamless weaving of 50,000 years of cultural continuity with today's technology is simply extraordinary.

<http://www.12canoes.com.au/>

Sites of Conservation Significance Blue Mud Bay and associated coastal flood plains

Northern Territory Department of Natural Resources, Environment, The Arts and Sport

http://www.nt.gov.au/nreta/environment/conservation/pdf/25_bluemudbay.pdf

Blue Mud Bay Sea Rights - High Court Decision

On 30 July the High Court of Australia made a decision on the matter known as the Blue Mud Bay Case. Research the history of the case and discuss its impact.

<http://www.fishing.nt.gov.au/index.html>

Charles Darwin - voyages and ideas that shook the world - Australian National Maritime Museum

Research the history and impact that Charles Darwin had on modern Biology. Think about these ideas in relation to Indigenous traditional knowledge.

<http://www.anmm.gov.au/site/page.cfm?u=1549>

POST VISIT ACTIVITIES

Art Projects

Botanical Art

Botanical art can vary according to fashion and the intention of the drawings. At times they are purely scientific depictions of plants with little consideration of aesthetics. At other times the emphasis has been on the artistic or cultural merit of the illustration. Artists can also combine these elements by balancing attention to detail with beauty of form and composition.

Discuss the difference between an artistic work and a botanical illustration. What makes a botanical illustration? What is the difference between a scientific drawing and a work of art?

Using a plant specimen paint or draw two different representations of the same plant. Draw a botanical illustration, focusing on the flowering and sexual parts of the plant (you may even want to dissect the plant to record it in greater detail). Using the same specimen, complete a more creative interpretation thinking about the beauty, geographic, historical or cultural associations of the plant.



Fiona Hall *Pandanus*

Fiona Hall

Fiona Hall has drawn this image so accurately experienced botanists are able to identify it by its Latin name - *Pandanus spiralis*. Fiona also incorporates insect nests into her work, exploring the relationship of host and tenant.



John Wolseley *Baniyala - The Sand Palm Burns and Draws the Sea, frottage and etching*

John Wolseley

On the last days I took a number of sheets of etching paper to an area of recently burnt Sand palm and Stringy bark scrub. The papers were firmly clipped to a board and I moved them over the burnt stems and twigs of the charred trees. The black fingers and flanks of the trees drew themselves on the paper. They made grazings and stippings, skid marks and staccato dots.

Each species made different marks – the little palmate hands of the sand palm made filigree versions of themselves; while the crocodile scales of the cycad stems caused more sonorous blotches.

Then I took the papers to Basil Hall's amazing print workshop and we floated passages of my other etching onto them. The etched images of the sand palm bits and burnt cycad nuts I had picked up on the beach then found themselves next to the carbon marks they had unwittingly made further inland - and these combined to tell their own story without I hope too much interference from a discombobulated artist.

Plant Rubbings

Collect leaves and plants from your garden or from the bush. Thicker leaves, work best; many flowers are too delicate, shapes such as pine needles work well. Flatten your selections in a phone book or between sheets of newsprint under a heavy object for a day or two.

Next place Japanese rice paper, or similar light weight paper on the specimen, and secure with tape or a bulldog clip. Rub one section at a time with crayon or pencil, holding paper with free hand. Fill in details, such as small flowers or insects.

POST VISIT ACTIVITIES

Printmaking

There are many different ways to make prints including etching, screen prints and linocuts. The following is a simple method which can be applied in the classroom and does not need specialist equipment (although a printing press will result in better quality images).

Collograph

A collograph is a print made from a collage of items glued to a sheet of cardboard, ply wood or similar flat material. Pablo Picasso, Juan Gris and Georges Braque were famous for the collagraphs they made.

Materials Needed:

- Masonite, plywood, mat board or any thin and durable material that can have items glued to its surface
- Acrylic wood glue or craft glue
- Water based varnish
- Printers ink
- Cloth
- Print press (alternatively use a spoon or rolling pin)
- Paper suitable for etching

Each student will need a piece of pre-cut masonite, ply wood or stiff cardboard that will be used for the plate. Make the plates around 30 cm x 25 cm or smaller to facilitate ease of printing and to be in proportion to the plant material.

The collograph plates can be printed in relief (the ink is placed on the highest parts), or intaglio (the ink is placed in the lowest parts) or both. The collagraphs will work best if the materials used are an even thickness.

Making the collograph

Arrange the leaf and plant material on a sheet of paper the same size as the plate. Paint or pour a film of PVA glue onto the printing plate. Transfer the objects onto the glued surface. Sand or other textured material can also be adhered to the surface of the collograph plate. Press down firmly to make sure the materials are permanently and firmly pressed onto the glued surface and wait for it to dry. Once the plate is dry, brush or roll a coat of shellac or PVA glue over the material you pasted on the plate to make a waterproof surface.

To print the image apply ink to the top surface with a roller or wipe on with a soft cloth or stiff brush. Wipe the edges and remove any excess ink.

Take the inked and wiped plate and place your printing paper on top of your printing plate. Or if using a press place it on the bed of the etching press face up. A sheet of clean newsprint under the plate will keep the bed of the printing press clean and help deter the spread of unwanted ink onto the print.

Apply pressure with a roller or spoon or run through the printing press. Remove the paper, by slowly peeling it from one side. You may need to adjust the printing pressure to achieve the desired result.

If you like your design, you can re-ink the collograph plate and make another print. You can add further detail to your print by hand painting or drawing designs.

Number the prints as described in the *Printmaking* section of the *Project Notes*.



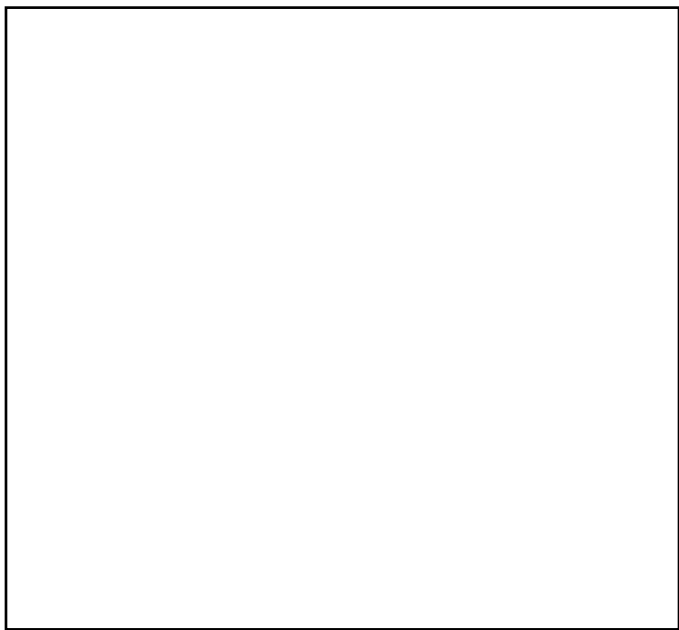
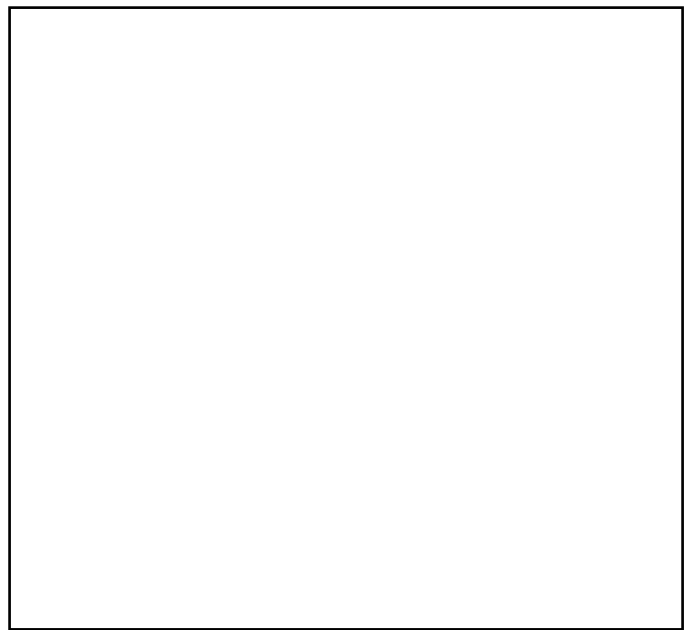
Basil Hall and Judy Watson running plant material through the press.

POST VISIT ACTIVITIES

Nature Poems

Visit a botanical garden or go to a national park or bush land. Find a place on your own to just sit and quietly observe the environment.

1 Make two lists. One: list the things you see. Two: write down feelings and thoughts. Combine the two lists into a poem about the experience. Illustrate the poem by making a drawing of one of the observations.

2 Imagine yourself as something in the garden/bush: an ant, a butterfly, a creeper, a tree. Write what it's like to be that thing. What do you see? What do you do? What do you feel? What are the threats? Make an artwork from the same point of view.

