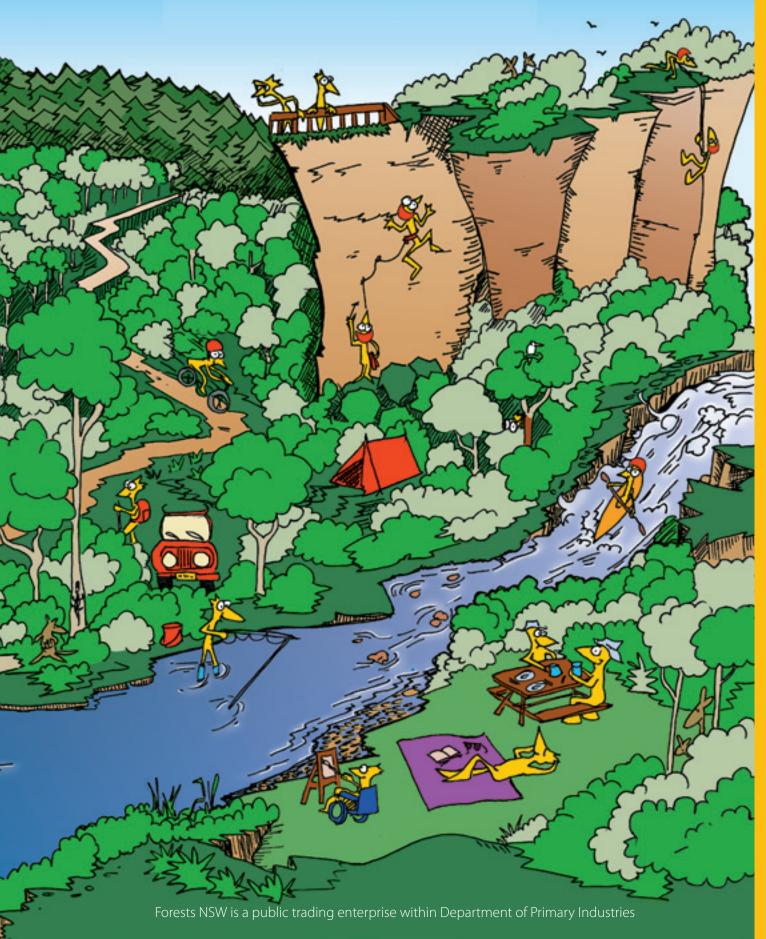




Camberland Forest Adventure





This booklet provides teachers of lower primary students who want to conduct school excursions to Cumberland State Forest in West Pennant Hills, Sydney, with a very practical and hands-on resource. The many activities and suggestions have been developed to make the planning of an excursion to Cumberland as easy as possible. Teachers and children will be rewarded with an enjoyable and enriching experience of what State forests have to offer. This resource could be adapted to be used in any of the many other State forests found across NSW.

Enjoy your visit!

Published by Forests NSW PO Box 100 Beecroft NSW 2119

Ph: 02 9872 0111 Fax: 02 9872 6447

email: cumberland@sf.nsw.gov.au

www.forests.nsw.gov.au

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Your Cumberland Forest Adventure

A self-guided resource for lower primary.

This booklet has been designed to allow teachers and their students to enjoy Cumberland State Forest's environment and facilities while engaged in their own self-guided excursion.

The booklet is divided into 4 sections:

Section I - provides booking details for your excursion.

Section 2 - an introductory walk on the Forestry Trail.

Section 3 - activities to conduct on the Sensory Trail.

Section 4 - a range of additional activities that allow students to further explore what this special forest environment has to offer.

For more details or advice contact the Information Officer on 1300 655 687 or 9871 3377 or email education@sf.nsw.gov.au

We hope you enjoy your visit and this material aids in the enjoyment and learning process!

All you need to know about a self guided excursion at Cumberland...

Why attempt a self-guided program at Cumberland? There are lots of benefits!

- No fees or charges
- •-Suggested forest activities and worksheets provided
- Maps provided and trails are signposted
- Session times can be varied to suit your group
- School-based activity sheets for pre and post forest visits are included
- Work at your own pace
- · Larger choice of activities
- Suggested timetables for excursions provided.

Important information

To make the most out of your visit to Cumberland State Forest, please be aware:

Bookings are essential. To make a booking, simply call the Information Officer on 1300 655 687 or (02) 9871 3377 or email education@sf.nsw.gov.au to discuss available dates and then complete the confirmation form and fax to (02) 9872 6447.

Please confirm your booking with the Information Officer the day before the excursion by phoning 1300 655 687 or (02) 9871 3377 during normal office hours.

There is limited undercover area available. If your excursion day dawns wet or extremely windy, it would be advisable to re-book.

Teachers and students are advised to wear closed walking shoes in the forest. Hats and sunscreen are also recommended.

Teachers are reminded to ensure first aid kits are available for each school group visiting the forest. Supervisors should also carry a mobile phone for the duration of the excursion. Please provide this mobile number on the confirmation form.

Teachers and students are advised not to leave valuables in bags. Please read the safety information sheet on the excursions section of the website. Refer to the risk assessment for public programs but be aware that as a self guided activity not all controls will be in place by Forests NSW staff.

Parking is available for buses and other vehicles. This parking area is located near the Visitor Centre.

Upon arrival at the forest, teachers should assemble the group in the Bellamy Picnic Area where there a shelter and outdoor classroom for your use. Additional brochures and maps are available from the Visitor Centre.

Students must be supervised at all times. Teachers must ensure that adequate supervision is available to conduct the excursion in a safe and responsible manner. Supervisors should be aware of vehicles in the forest and ensure that any rubbish is disposed of thoughtfully.

Encouraging forest safety for students

State forests are great places to bushwalk, walk your dog, four-wheel drive, ride a horse, swim, ride mountain bikes or enjoy a campfire, but safety issues must be considered.

It is important that students respect the forest and understand some key rules for enjoying a safe visit. These include staying on the trails, walking sensibly at a steady pace behind the group leader, considering other forest visitors and leaving the forest as it was found (eg: do not pick plants or litter).

The worksheet Forest Rules on page 5 is an excellent classroom 'thinking activity' that is useful prior to a forest excursion.



Confirmation form for educational excursion to Cumberland State Forest



SELF-GUIDED EXCURSION

Excursion date:	
Number of students:	Year:
School / institution name:	
Address:	
	Postcode:
Phone:	Fax:
Contact teacher's name:	
After hours contact number (for wet weath	er/wind cancellation purposes):
Mobile phone number (that will be carried on	the day):
Arrival time:	Departure time:
What sort of transport will be used:	
Number of teachers participating in ac	ctivities: Number of parents attending:
Will the school ensure all students par excursion details: YES / NO (please circ	rents/guardians give their consent in writing of the
Does the organising teacher understar excursion to be postponed: (please	nd that wet weather or wind conditions may require the e tick)
Are there any students with special ne excursion?	eeds that may require consideration before the
These may be exacerbated during periods of extreme entering the forest at your own risk. Other forest hazards include, but are not limited Watch out for vehicles and pedestrians.	nseen and unpredictable hazards that cannot be removed or controlled. reme weather — fire, flood, wind and rain. Because of this you are to, overhead hazards from tree limbs and uneven or slippery surfaces. e for any damage caused to your person or property.
Signed:	
Organising teacher	Date
Signed:	Date

Timetabling your excursion

Scenario I

You have a large number of students (80-90) and some parent helpers.

Why not divide them into 3 groups and try the following timetable? This is even suitable for smaller groups if you want to keep group sizes down.

The activities go for 50 minutes.

Times	Group I	Group 2	Group 3
10.00 - 10.15	Orientation	Orientation	Orientation
10.15 -11.05	Forestry Trail	Forest Survey	Forest Hoops
11.05 -11.30	Recess	Recess	Recess
11.30 -12.20	Forest Hoops	Forestry Trail	Forest Survey
12.20 -1.00	Lunch	Lunch	Lunch
1.00 -1.50	Forest Survey	Forest Hoops	Forestry Trail

Scenario 2

You have two small groups and wanting to do some shorter activities. Then why not go for all shorter activities or combine two short activities while the other group does a 50 minute activity?

Times	Group I	Group 2
10.00 – 10.15	Orientation	Orientation
10.15 –10.40	Environmental Search	Environmental Textures
10.40 - 11.05	Art in the Forest	Environmental Spaces
11.05 –11.30	Recess	Recess
11.30-11.55	Leaf Patterns	Environmental Search
11.55 –12.20	Visitor Centre	Art in the Forest
12.20-1.00	Lunch	Lunch
1.00 – 1.25	Environmental Textures	Leaf Patterns
1.25 – 1.50	Environmental Spaces	Visitor Centre



Go for a bushwalk

Ride a bike

Pitch a tent

Go horseriding

Take your dog for a jog

The Forestry Trail

Tall Sydney blue gums and blackbutts dominate this magnificent walk. Students can continue a longer walk through to our arboretum (native and exotic tree plantings) to discover native pines and more than 50 different species of eucalypts.

The trail has stops that have been numbered from STOP I through to STOP 6 on the bottom half of the trail, which is usually long enough for a minimum 45 minute walk with commentary.

Should you wish to skip some stops, there are an additional 6 stops further up the hill. STOP 7 through to STOP 12 will eventually lead you into an area of tall native pines - certainly worth a visit some time during your day at Cumberland.

There is a brochure on Cumberland State Forest, including a map, available at the Visitor Centre or online. A large sign with a map of the forest is outside the Visitor Centre.

The following commentary provides information that can be explained at each suggested stop along the trail. It is not intended to be an exclusive coverage of what can be attempted or expressed at each stop. Please feel free to be as creative and expressive as possible to enhance the enjoyment and wonder of the forest for the children.

Follow the line of yellow animal tracks leading from the front car park, near the Visitor Centre, to the start of the Forestry Trail.

The first stop can be found soon after the sign at the start of the Forestry Trail on the left.

COMMENTARY

stop 1: native gum forest

Cumberland is a 40 hectare gum (eucalypt) forest. Gum forests are the most common forest type in Australia and NSW. There are more than 700 different types of gum trees in Australia. Cumberland is home to many animals, including possums, gliders, bats, owls and lizards. Some animals in the forest are listed as rare or endangered such as the powerful owl, Australia's largest owl, measuring over 60cm in length.

Why are trees important?

They provide homes, oxygen, shade, timber, food, compost.

Things to do...



- Look for the Sydney red gums (Angophoras or smooth barked apples) on the right hand side of the trail and find a bee hollow.
- Look out for the names of other gum trees (these are found on labels at bottom of trees further along the trail) for example, Sydney blue gum and blackbutt.

stop 1b: remnant forest

Another possible stop is the wooden bridge at the creek.

You can see the remains of the large Angophora tree which was over 200 years old. The rest of the forest is only 70 years old. Old growth forests in NSW and are protected, as are rainforest areas. Other special sites within State forests include Aboriginal sites and areas inhabited by rare animals. This tree died several years ago and continues to provide valuable habitat for animals.

Why would rainforest areas be protected in State forests in NSW?

Rainforests make up only a small part of forests across NSW. They contain a large number of plants and animals living together. In coastal forests, patches of rainforest are found in protected gullies where a combination of rain, shade and soil encourage lush growth.

Things to do...



- Look for any evidence of animals like droppings, feathers, fur, chewed leaves and bones in this section of the forest.
- Look for large tree ferns growing in the shade in the creek gully below the platform viewing area.

stop 2: protected forest

This stop can be found down in the creek gully.

Areas around creeks and rivers are also special protected areas. Creeks are special as they provide important homes for animals and they supply drinking water for animals and people. Trees near creeks are important as they keep the water clean, stop erosion and provide shade. Trees in these areas are protected and not allowed to be removed.

Things to do...



- Identify the animals that might live in or near this creek.
- Water helps plants to grow. What else do trees need to grow?

stop 2b: whispering forest

This optional stop is found just after the creek, at the top of the steps you'll find some logs.

Here, the children can sit on the logs, with their eyes closed for a short time, and test their listening skills or just reflect quietly.

Things to do...



- Spot hollows for rosellas and rainbow lorikeets in the nearby trees.
- Listen for noises/calls how many different calls did you hear?
- Supply some describing words that convey the wonder and beauty of the forest.

stop 3: regrowth forest

This stop is found just before the next wooden bridge. Look ahead across the bridge... This is a tall open eucalypt forest. The gums growing here like to grow tall with few branches. The top part of the forest is called the canopy. The trees are all roughly the same age (70 years) because the previous owner was a farmer who had cleared the forest away. Forests NSW purchased the land in 1939 and allowed the forest to regrow.

How do forests grow?

Trees grow from seeds that are carried to an area by the wind, creeks, birds and bats. The seeds come from the 'seed trees' or mature trees or the seeds are already in the ground in an area – in a 'seed bank'.

Things to do...



- Spot some gum nuts as you walk the rest of the trail.
- Spot some fruits or flowers on the plants along the trail.

stop 4: State forests

This stop is found at the top of the rise on one of the many fire trails in the forest.

Notice the coloured rings on the trees. Forests NSW use a colour coded system to indicate which trees are not to be removed or have to be protected. Trees with a yellow ring are 'wildlife trees', which we call habitat trees and are protected. Trees with double or triple pink/red rings mark the areas near the creek to be protected. Other examples of areas protected are heritage sites, recreational areas, rainforest and old growth forest.

Notice the area of new regrowth behind the sign. This area was harvested in 1994. This is what a young regrowth forest looks like after harvesting occurs. In a State forest, trees are allowed to be harvested (unlike a national park) because people need timber. Seed trees are always left.

Things to do...

• Name some uses for timber – what would Bob the Builder use it for?

stop 5: people's forest

People use the forest for a variety of reasons:

- * fun (recreation) horse riding, bike riding, camping
- * fitness (exercise) jogging, walking their dog, rock climbing
- * learning (education).

People obtain a variety of items from the forest:

- * medicines herbs, antiseptics, syrups
- * food honey, fruits, berries
- * timber houses, paper, furniture.

Aboriginal people obtained items for:

- * shelter bark roofs, wooden frames.
- equipment nets, weapons, tools, and today use the forest as a classroom.

Things to do...

- Look out for burnt areas in the forest as you continue on your journey.
- Can you name one of the picnic areas or trails found in Cumberland?

stop 5b: living forest

You'll find a good spot to rest on a bend in the trail.

Nest boxes (green boxes) can be spotted in the trees in this area. They provide homes for animals to breed in as most of the trees here are not yet old enough to have hollows. The boxes protect the native animals from predators and feral animals, including cats. The extra boxes (about 60 scattered throughout the forest) stop animals from fighting over the few natural homes available to live in.

Things to do...



- See how many nest boxes you can count from here to the next stop.
- Are the boxes the same shapes or are they different shapes and sizes. Why the different shapes?

stop 6: threatened forest

Along the way you have walked past a number of burnt areas in the forest.

Can you think of a number of threats faced by the forest? What about:

Ferals - like cats, foxes and rabbits which attack native wildlife, steal their homes and take their food

Pests – like white ants (termites) which eat the trees

Diseases – like dieback which kill the trees

Storms - lightning strikes can damage/kill trees, strong winds can snap trees or uproot them from the ground

Wildfires – can destroy whole sections of the forest.

Forests NSW work hard to protect forests from these threats.



- Can you spot some trees or logs lying on the ground either in the gully or along the trails?
- What happens to a tree when it gets old?
- Why leave these logs on the ground?

final stop

You have now reached the roadway. This is where the commentary ends. Turn left and follow the road back to the Information Centre.

optional additional stops: Up the hill

The trail continues up the hill for those who wish to venture on. This section of the forest contains the arboretum that has been planted with native plants, including pine trees, from other areas of Australia.

Forest Visitor Centre

The Forest Visitor Centre offers interpretive information and activities of forests and forestry in NSW. A range of hands-on stations are suitable for children. These include a touch table, a maze, slide puzzle and Q&A flipboards.

A range of brochures are available for collection in the centre.

The Visitor Centre is a great destination to visit in small class groups and can act also as a refuge in inclement weather! Please ensure students remain supervised in the Visitor Centre and be mindful of other forest visitors using this space.

Sensory Trail

Our Sensory Trail allows visitors to use their senses to explore nature. The flat, sealed surface of this trail is great for younger children, in addition to being wheelchair - friendly. For the visually impaired, a guide rope is provided. The trail has 16 signposts along its length and each sign suggests things to do at each site.

Following is a selection of activities suitable to carry out along the Sensory Trail or on one of the other trails in Cumberland State Forest. These activities can be of a 20 to 30 minute duration.

ACTIVITIES

Environmental search

Students are to look for objects along the trail that match the words listed on the Environmental search survey sheet on page 12. They are to list or draw the objects beside the matching word.

Environmental spaces

Directing students to observe the different layers of the forest such as the forest floor understory and canopy is not always easy. One way to have them focus on what they are looking at is to ask the students to imagine they have a camera and are taking a whole lot of snaps. Students are to hold their arms straight in front of them and make a rectangular shape with their fingers, like a picture frame. They can then record 2 images from each of the different forest layers on the Environmental Spaces survey sheet. Alternatively, students can take pictures of the objects they see every 20 paces along the trail and list or draw what they see in the spaces on page 13.

Environmental textures (no worksheet required)

Students can make rubbings of bark or leaves from different trees. All that is required are large pieces of thin paper and crayons or charcoal pencils for the rubbings. These rubbings could include something that is bumpy, smooth, cracked or patterned. Students could rank their rubbings from the smoothest to the roughest. They could do this ranking exercise by carefully feeling these objects with their hands.

Treasure hunt

Students need to tick-off objects on the Treasure hunt chart on page 14 as they venture along the Sensory Trail.

Environmental sounds (no worksheet required)

Students can sit on the logs or stand along the trail at certain spots and listen to the variety of calls or sounds they hear. Alternatively, they can use the guide rope along the edge of the trail to walk with their eyes closed and listen at the same time. Students can make their own forest sounds with sticks by 'clapping' them together or against the logs on the ground; with their hands; with leaves; and with voices. Have your students think of forest objects that they could use as musical instruments and collect one object as they walk. Instruct them to collect material from the ground and not to remove them from the living plants. Find an open area for your group and have them sit in a semi-circle. Try to arrange them in groupings according to what they collected and have each group play their instrument one at a time. Later join them all together in one harmonious forest orchestra.





As you wander along the Sensory Trail, search for objects that match the words listed below. List or draw the objects beside the matching word.

rough

tall

soft

smooth

chewed

HARD

small

living

dead

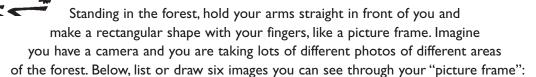
snapped

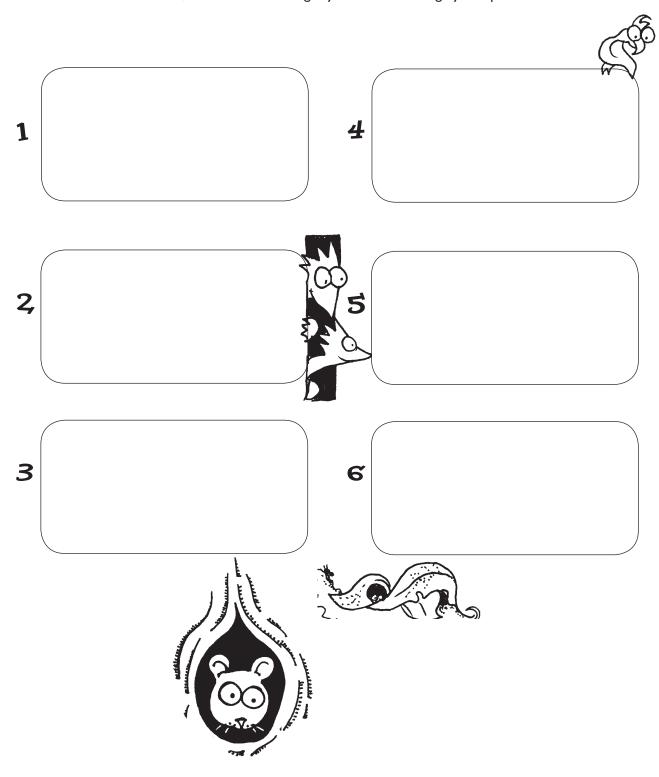
colourful

smelly

environmental

vey sheet

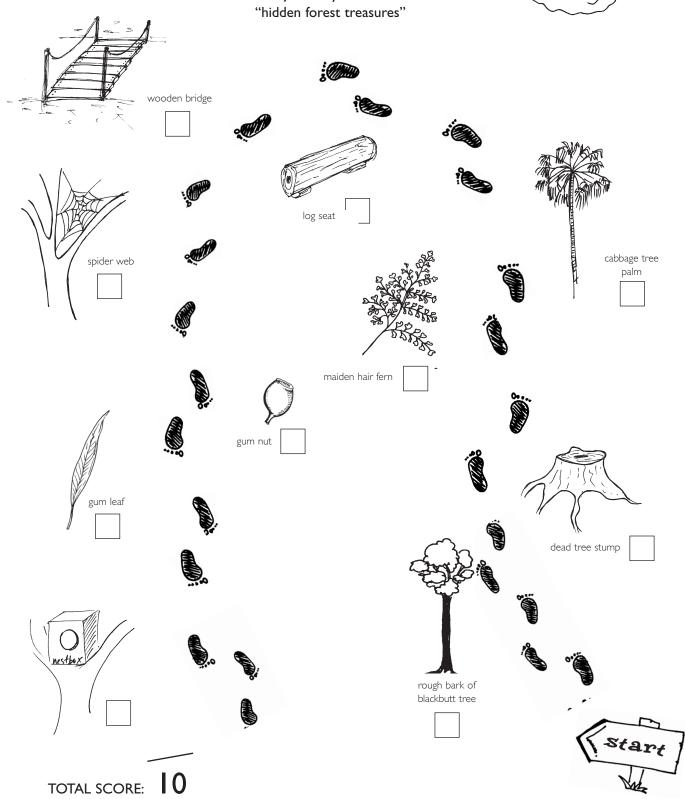




* treasure hunt

Walk along the Sensory Trail and tick off the objects as you find these







Cumberland State Forest activities

Cumberland State Forest provides a number of trails, picnic areas and gardens, such as the award-winning Bush Tucker Garden and the scenic grove of native pine in the arboretum area, in which people can explore and learn.

The following activities offer a chance to find out more about this special forest environment.

Forest spy

As they walk through various areas of Cumberland State Forest, students are to search for the objects illustrated on the Forest Spy record sheet on page 18. They can tick or mark these objects off as they spot them. Back at school, students could colour in the objects they discovered and stick the sheet in their books/folders; or cut out the objects and glue them onto a large picture of a forest that they have drawn.

Bush tucker

The Bush Tucker Garden is situated in the Calgaroo Picnic Area, near the front entrance to Cumberland State Forest. Using our garden as inspiration, students can design a Bush Tucker Garden for their school and learn about the many uses of bush food. The Bush Tucker worksheet is on page 19. Samples of bush foods can be purchased from the Information Centre to sample on the day or back at school. To avoid a tiring uphill walk for the younger children, a visit to the garden on arrival (before proceeding to the Visitor Centre) is recommended.

Forest hoops

This activity allows students to observe and record living things on the ground in different areas. Bring some large plastic or wooden hoops from school and visit a number of sites within the forest. In small groups count any insects, grasses, leaves, animal remains found within each hoop. Students should be wary of bull ants and spiders. Students can record some of their findings on the Forest Hoops record sheet on page 20. In order to vary the activity at the different sites the students could draw a simple outline of the specimen inside the hoop and add a descriptive label to it. Please confine these searches to the picnic areas and the edges of the trails within the forest.

Forest surveys

On the worksheet Forest Survey on page 21, students can record all of the things they could see, smell, touch and hear in the forest. Students can count the number of times they observed certain objects in different parts of the forest and keep a tally on the Forest Tally worksheet on page 22.

Leaf patterns

Students can try matching the images found on the Leaf Patterns worksheet on page 23 with leaves found on the trail or on the bushes close to the trail. They can sketch these or do a rubbing and try to work out what has caused this damage. Alternatively the sketches could be of leaves from different trees that are of different shapes, textures or smells; or students could be directed to the leaves of specific plants.

Art in the forest

Students can make up their own colour charts from old or recycled paint shop colour charts in class. These charts could be used to match colours with particular objects they find in the forest. Students can also do drawings of different things found in the forest which could be coloured-in back at school. There is a list of suggestions on the worksheet **Drawings in the Forest** on page 24. Back at school, students could combine their different images to make a collage and cut up the finished picture into puzzle pieces. Swapping their puzzles with one another they could attempt to reassemble the original picture. Students could do some bark rubbings of the trunk of one of the hoop pines in the arboretum and compare the pines with the eucalypt trees found elsewhere in Cumberland State Forest. See the Bark rubbings worksheet on page 25.

Tall tales in the forest (no worksheet required)

Writing stories in the forest can be an enjoyable past time. A good place to start is with story telling from books about forests or people in a forest, whether these stories are based on magical people and enchanted forests; or on traditional peoples; or on more recent historical people like the timbergetters. There are many book references available. Students can then write their own stories about people and forests whilst sitting in a quiet corner of the Cumberland State Forest.

Students could write about individual trees, plants and animals or write a list of words that describe things in the forest and then use some of them in a composition or spellathon.

Additional Worksheets

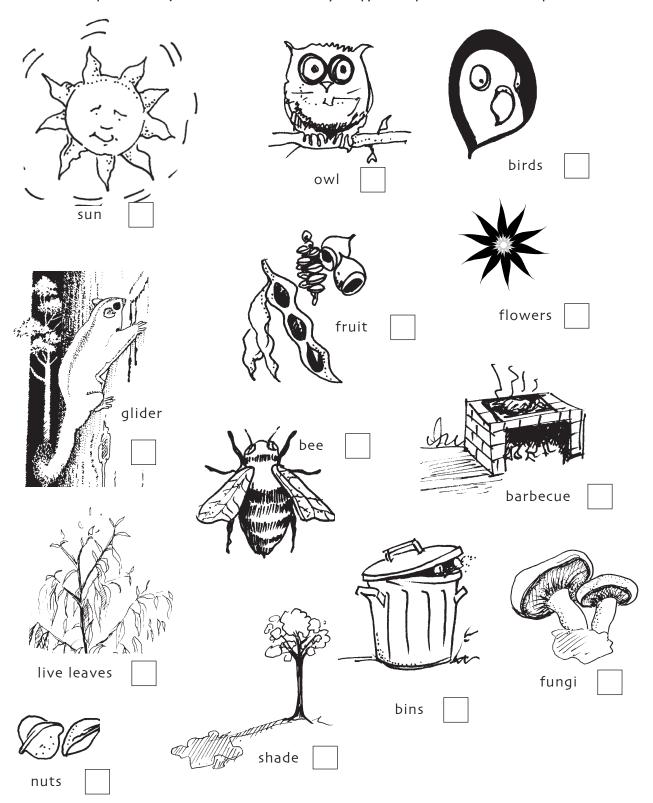
The worksheets from page 26 onwards can be used before or after an excursion to Cumberland. These activities could be displayed in the classroom after the excursion.

Forests NSW Education website has a number of interactive

wild forest adventures and is certainly worth a visit. This section has a unique, interactive comic book format that explores issues in a fun and imaginative way. The free student workbook A Wild Forest Adventure provides a wide range of challenging games and activities. See www.forests.nsw.gov.au

orest sp ecord sheet

Creep undercover through Cumberland State Forest, keeping a careful look out for the animals, plants or objects illustrated below. As you spy them, put a tick beside the picture.



bush tucker

worksheet

What is bush tucker? Where do you think bush tucker comes from? Using this garden as inspiration, design a Bush Tucker Garden for your school. Quickly sketch your design in the space below. Select and name five plants that you would include. Why?

Important: please do not remove any leaves or fruit from the garden.







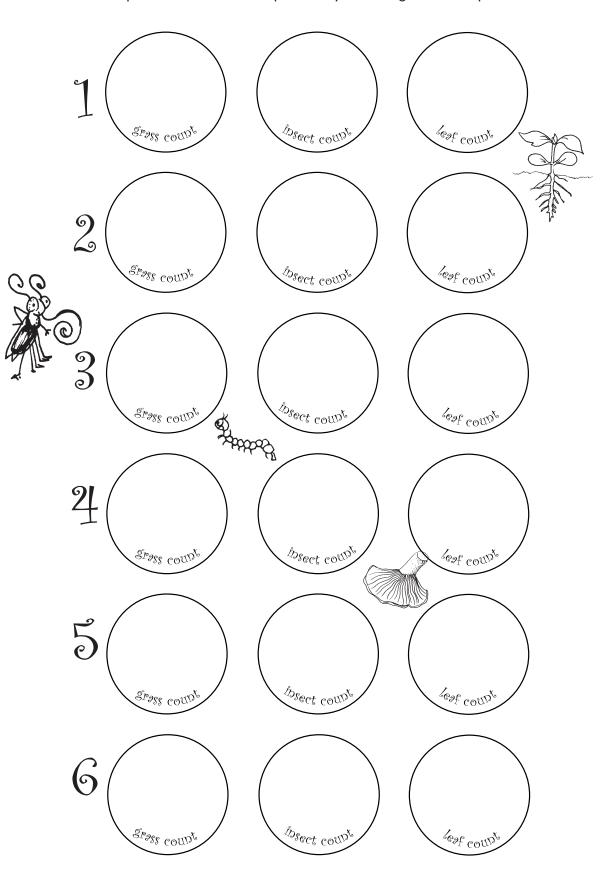




forest hoops

record sheet

In small groups, visit a number of sites in the forest and count the grasses, insects and plants found in each hoop. Record your findings in the hoops below:



forest sür

Record all the things you have found in the forest:

to see



to touch

to hear



to smell

When in a forest I feel...

forest tally



Whilst visiting Cumberland State Forest, count and record the number of times you see the items listed below:





seedlings



toilets



lizards



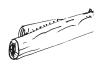
gumnuts



small trees



machines



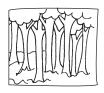
fallen logs



trails



signs



large trees



pine trees



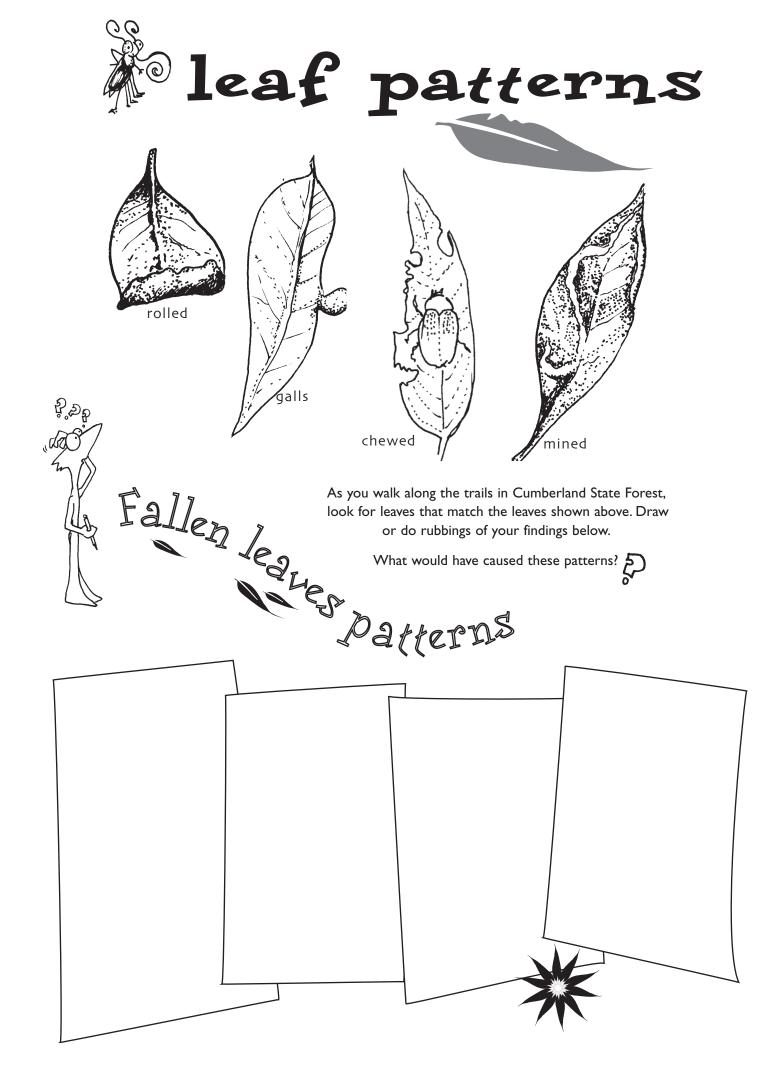
birds



rangers



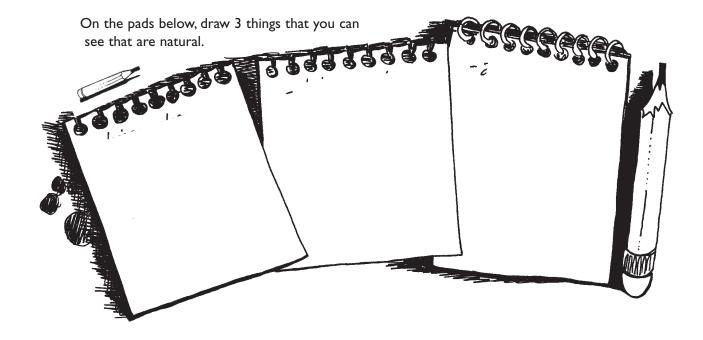
picnic tables





lrawing





Draw something that you can see that people have made.

Draw and label parts of a tree. (Remember the roots, trunk, branches and leaves).



Go and find the hoop pines on the Forestry Trail.

Do a bark rubbing of the trunk of one of the pines. How is the bark, fruit and leaves different to the eucalypt trees found elsewhere in Cumberland State Forest?

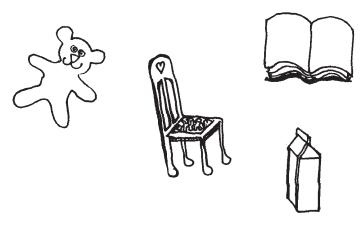


forests? worksheet



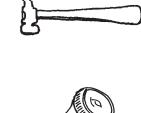


Colour in the objects below that come from forests. Hint: most of them will be made of wood or paper.



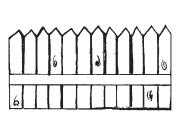


















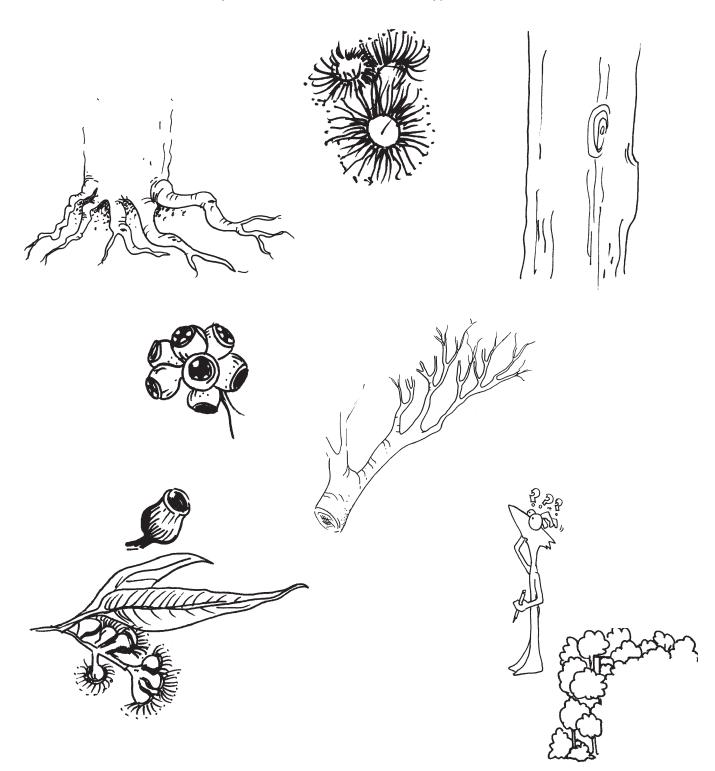


parts of a



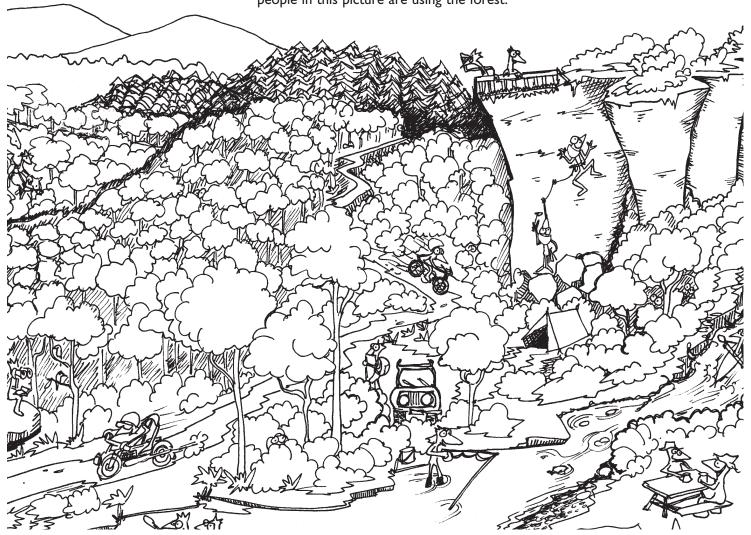
worksheet

Look at the trees around you. Try to name each of the tree parts shown in these pictures. See how many words you can make from the name 'eucalyptus'.



forest fun

Forests are used in different ways. Look carefully at how the people in this picture are using the forest.



How many people can you count? — How many different activities can you count? —

Write a list of at least 6 activities you can see here

List the items you would need to pack for two of the activities

Colour in the picture, taking special care to colour the two types of trees differently.

forest fun notes

Use this page to plan you excursion date!



Forests NSW manages hundreds of State forests for recreation, biodiversity, cultural heritage, forest products such as timber, catchment protection, research and education.

State forests are great places to camp, have a picnic, enjoy a stroll, ride your horse, walk your dog, take a forest drive, ride your bike and see native animals and plants.

For information about a State forest near you or to subscribe to Forests NSWs free magazine

Bush Telegraph contact:

Forests NSW Visitor Centre Ph: 1300 655 687 or 02 9871 3377 email: cumberland@sf.nsw.gov.au

Forests NSW education staff run education programs for students (K-12) and teachers that complement the NSW Department of Education and Training's Environmental Education Policy for Schools.

Training and development programs, including trips to the forest, are also run for teachers.

For more information on education programs and events contact:

Cumberland State Forest

West Pennant Hills in Sydney's north west Ph: 02 9871 3377 Fax: 02 9872 6447

www.forests.nsw.gov.au