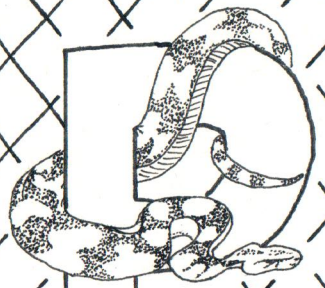
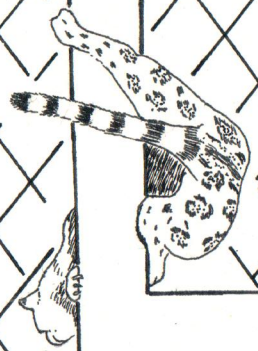
A PLACE TO LIVE








A teachers' guide to animal homes and habitats.

Aims

This pack is a guide to teaching junior school levels about animal homes.

It aims to provide information and ideas for the teacher to use at school and Penscynor Wildlife Park.

Contents :

Reproduced on recycled paper.

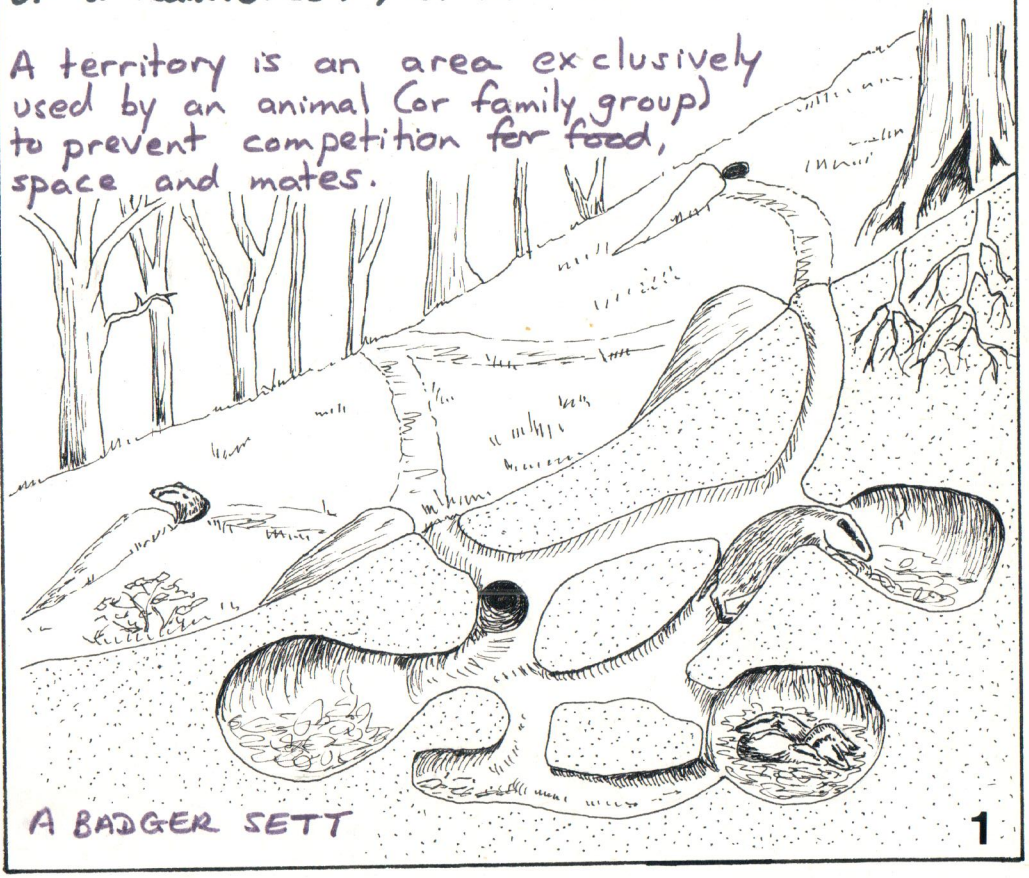
A Place To Live.

A home is a place where something bases its life (or part of its life), and can be a construction of some kind.

A habitat describes the area in which something lives, such as an Oak Woodland, a Tropical Rainforest or a Desert.

A niche is the small part of the habitat which something lives in. Egs. In the canopy of a Rainforest, in the bark of Oak trees.

A territory is an area exclusively used by an animal (or family group) to prevent competition for food, space and mates.

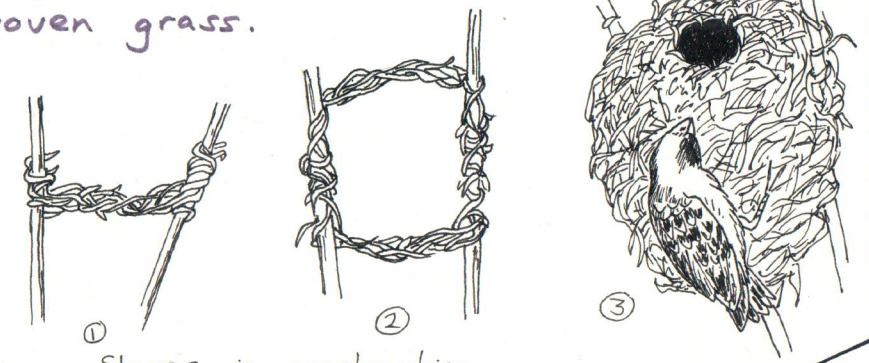


A BADGER SETT

Nests.

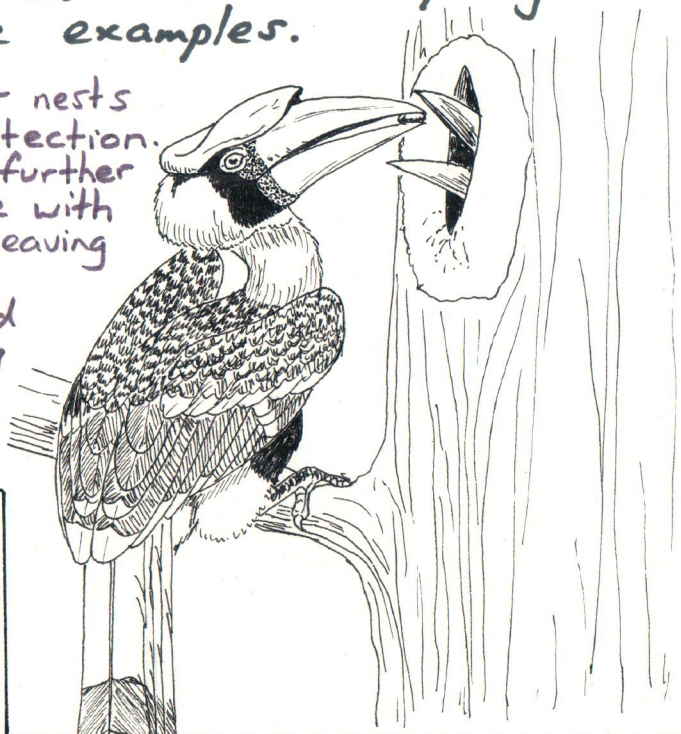
Many birds make nests to lay their eggs in and rear their young. Not all nests are the same; here are some examples.

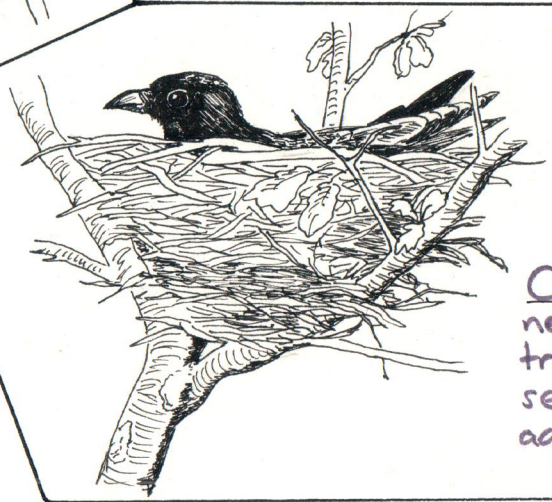
Weaver birds such as the quelea construct nests of woven grass.



Stages in construction.

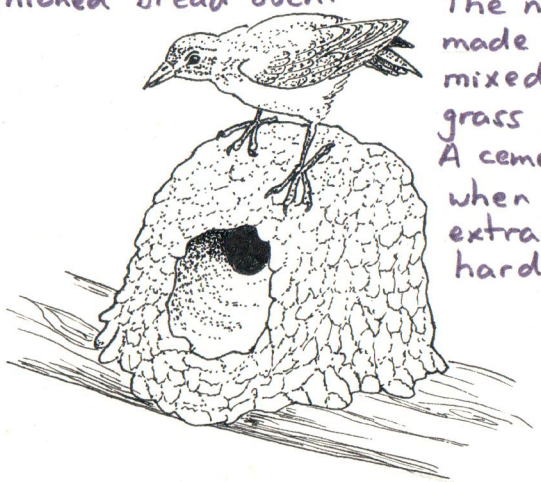
Many birds make their nests in tree holes for protection. Hornbills go one step further by walling up the hole with mud and droppings, leaving only a small slit to allow the male to feed the female and young on the nest.





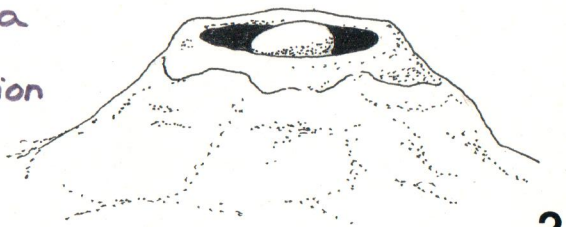
Crows build substantial cupshaped nests in a fork of a well-grown tree. The nest is often used for several years in succession by adding new material on top.

Ovenbirds are so-called because their nest looks like an old-fashioned bread oven.



The nest is made of mud mixed with grass + hair. A cement which, when dry, is extraordinarily hard.

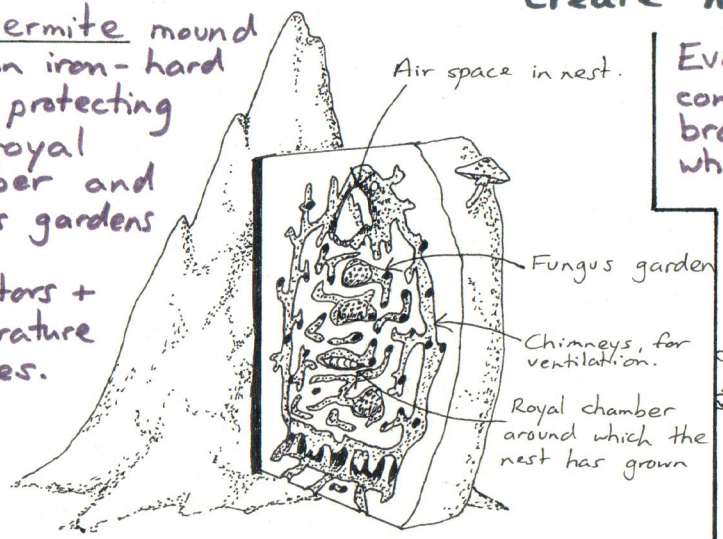
Flamingos build a mud nest of a circular mound about 35 cm across with a shallow depression on the top into which the egg is layed. Some are small but they can be 15-20 cm tall.



More Nests.

It's not just birds who build nests, many other animals create nests out of collected materials.

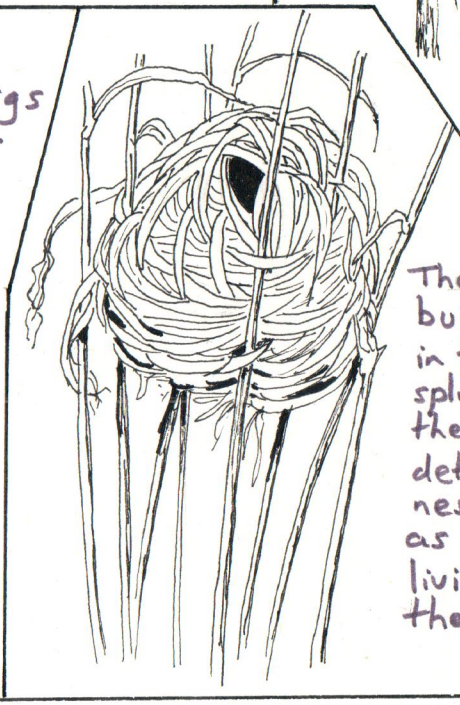
The termite mound has an iron-hard shell, protecting the royal chamber and fungus gardens from predators + temperature changes.



Every evening chimpanzees construct a new nest from branches and leaves in which to sleep.

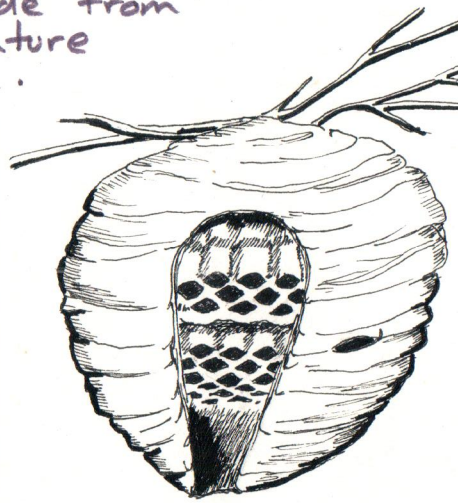
The potter wasp is a solitary insect which makes its vaselike nest from mud. The female places a store of live but paralised food inside, so that the larva wasp can feed and grow.

Red squirrels construct round, roofed nests of twigs and moss covered in leaves. These dreys are used for sleeping, raising the young and keeping warm during spells of cold weather.



The harvest mouse builds a nursery nest in tall grasses by splitting and weaving the leaves without detaching them. The nest is well camouflaged as the leaves are still living and so retain their colour.

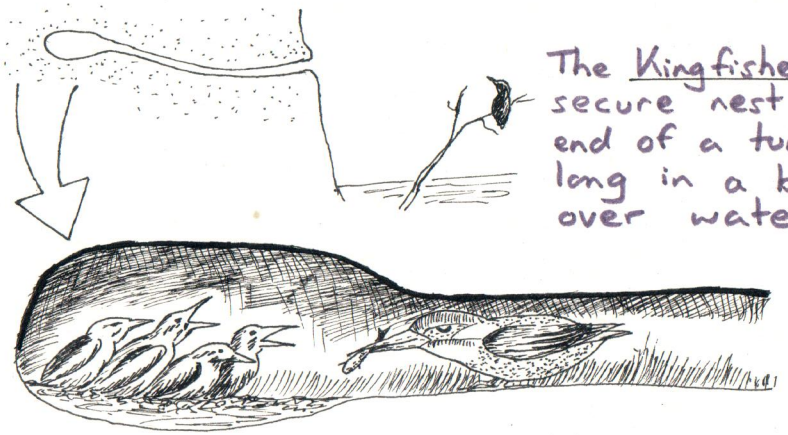
Social wasps and hornets construct intricate nests from wood mixed with saliva forming a tough papier-maché. These paper walls insulate the inside from extreme temperature changes outside.



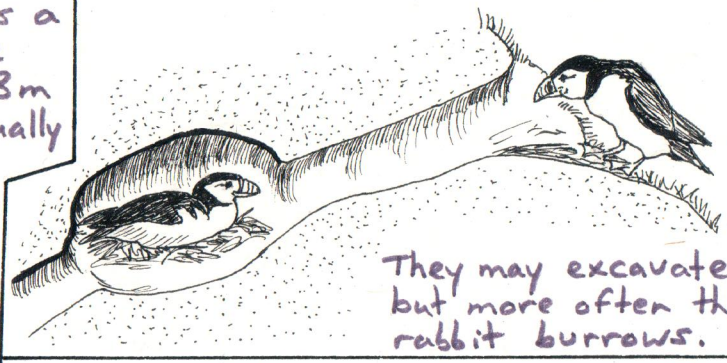
Social wasp nest showing interior cells.

Living Underground.

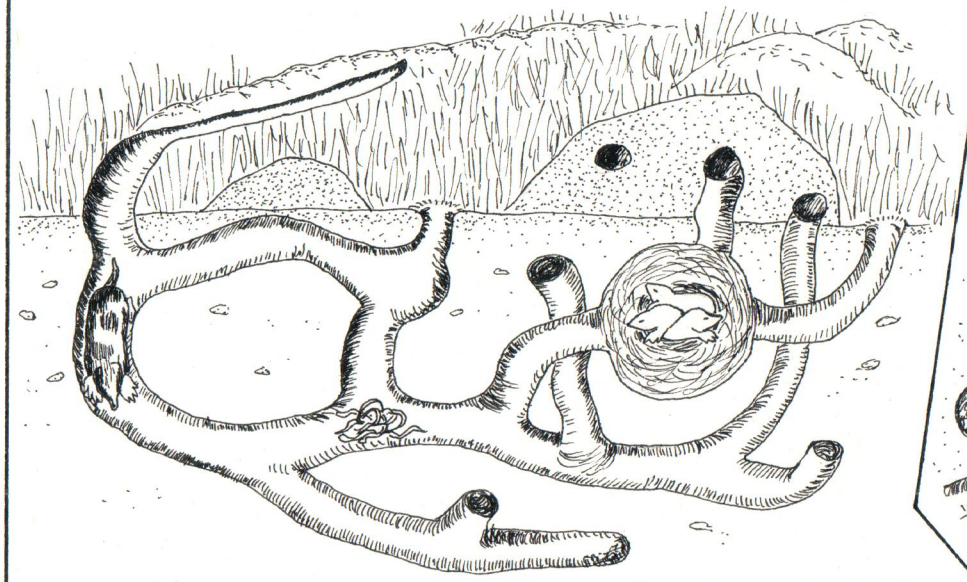
Many animals spend part or all of their lives safely below the soils surface.



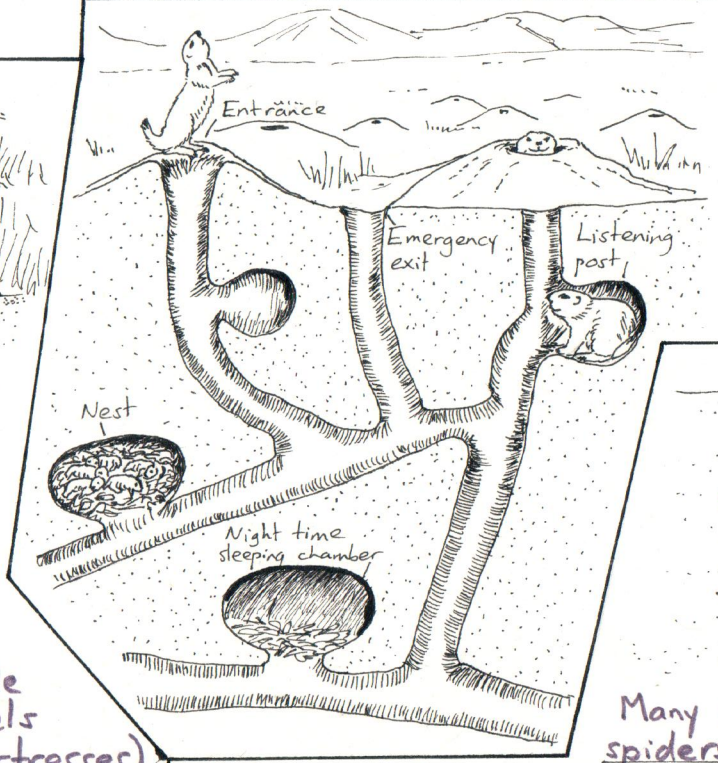
The Kingfisher makes a secure nest at the end of a tunnel 1-3m long in a bank, usually over water.



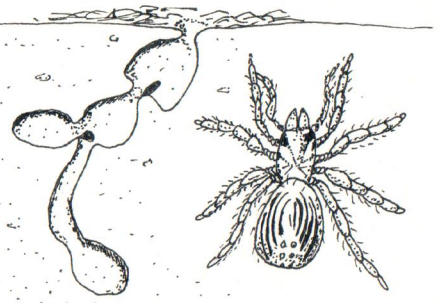
Puffins nest in burrows on grassy slopes above sea cliffs. They may excavate these themselves, but more often they take over rabbit burrows.



Moles live underground all their lives. Small mole hills mark the course of a tunnel, shallow tunnels are marked by 'earth furrows'. Large mounds (fortresses) cover the breeding chamber, this has many entrances for escape and ventilation.



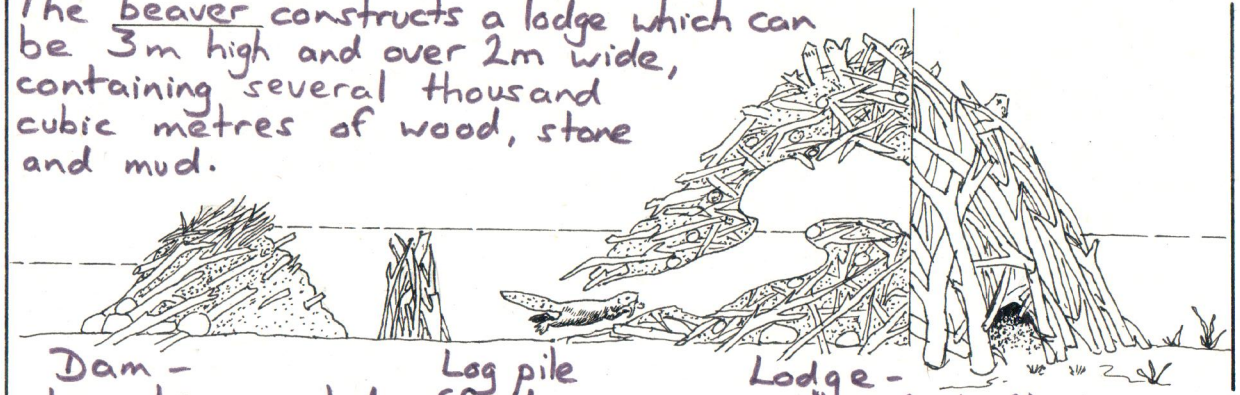
Prairie dogs dig large tunnel systems under the N. American prairie. These coteries provide the prairie dogs with a refuge and a place to rear their young.



Many Australian 'trapdoor' spiders have complicated burrows. The goldfields spider builds an antechamber as a safe retreat during floods.

Fresh Water. A few examples of the wide variety of aquatic animal homes.

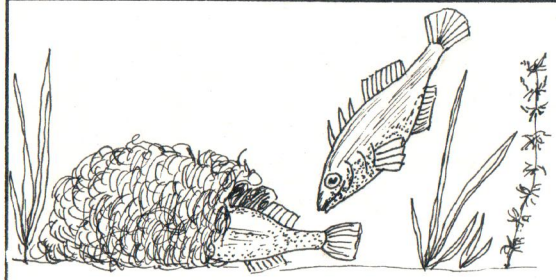
The beaver constructs a lodge which can be 3m high and over 2m wide, containing several thousand cubic metres of wood, stone and mud.



Dam - branches cemented with grass and mud

Log pile (food store)

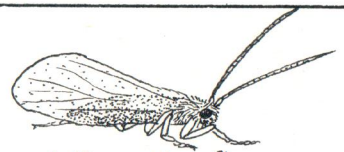
Lodge - usually 6-10ft diameter.



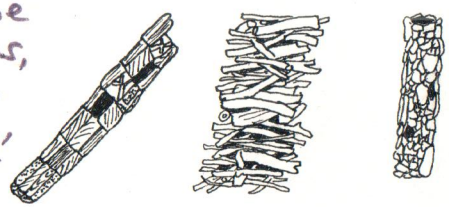
The male stickleback makes a nest from bits of weed in which the female lays her eggs. The male then guards the nest until the young hatch and swim away.

The great crested grebe makes a floating nest if the water is deep enough. The 'island' nest is usually tethered to some kind of waterside vegetation.

Many caddis fly larvae protect themselves by building a case around themselves. This can be made of sand grains, small stones, twigs, leaves cut to size, small shells etc. - which are bound together with a silk-like secretion.

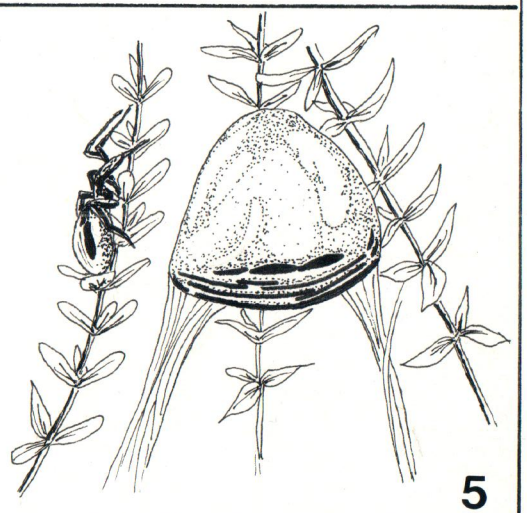


An adult caddis fly.



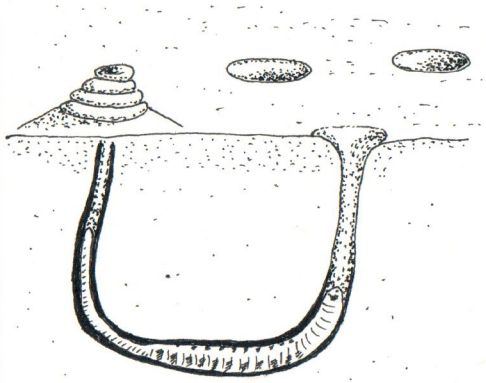
Some larva cases.

The European water spider lives submerged for nearly all of its life, making occaisional trips to the surface for air. Their underwater nests are made of a spun sheet of silk amongst water plants. This is filled from beneath with air bubbles carried down by the spider.

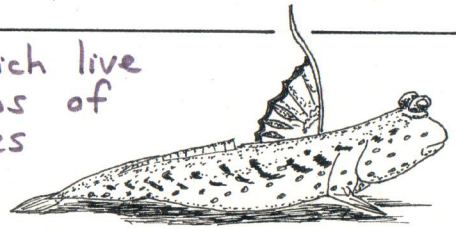


Home By The Sea.

Living by the sea is not easy; the animals have to contend with the tides and crashing waves.

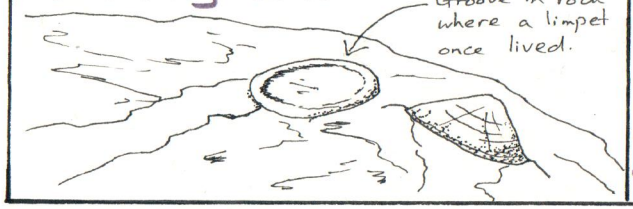


Lugworms make U-shaped burrows in the sand. A slight depression marks the head end where water is sucked down to give food and oxygen to the worm. Unwanted sand is passed out giving rise to worm casts.

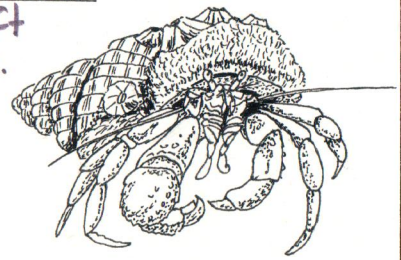


Mudskippers are fish which live in the mangrove swamps of S.E. Asia. Some species would drown if covered in water, so when the tide comes in they retreat to their burrows in the mud, sealing in themselves and an oxygen supply until the tide turns.

Limpets feed by grazing on algae. Before the tide goes out they always return to the same spot. This is marked by a groove in the rock which helps to give a good grip against predators and crashing waves.

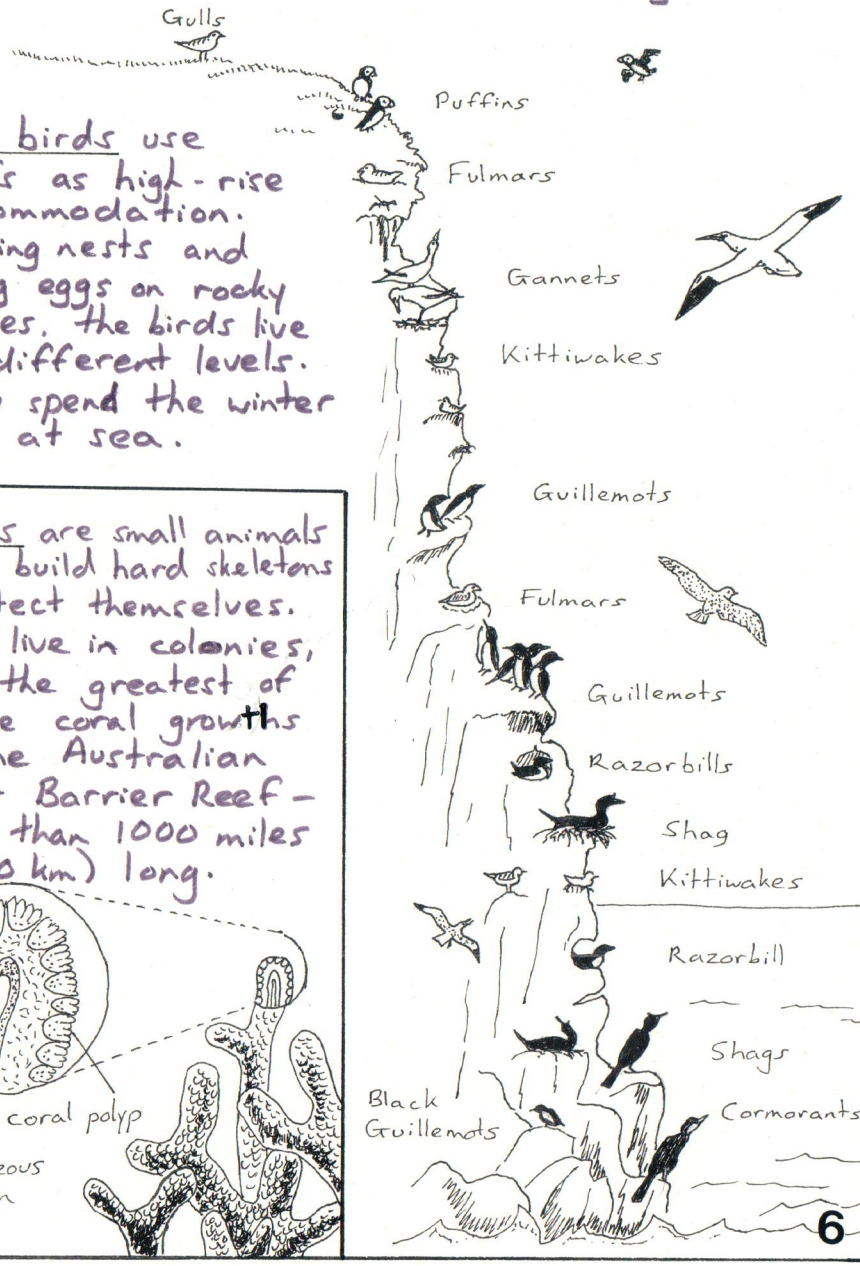


Hermit crabs have soft abdomens. So to protect from

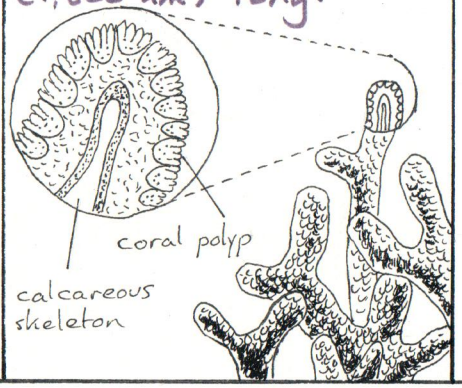


attackers they 'live' in empty snail shells. Small hind legs grip on to the shell inside and they walk on the front 2 pairs of legs.

Sea birds use cliffs as high-rise accommodation. Building nests and laying eggs on rocky ledges, the birds live on different levels. Many spend the winter out at sea.



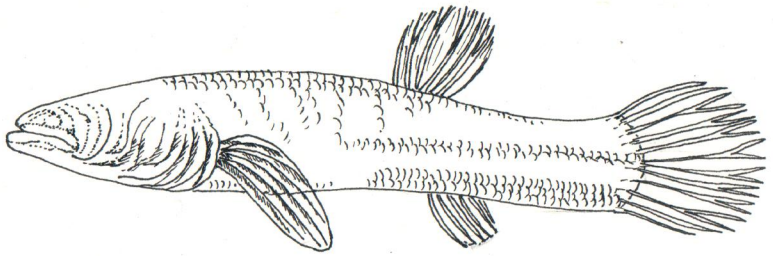
Corals are small animals which build hard skeletons to protect themselves. They live in colonies, and the greatest of all the coral growths is the Australian Great Barrier Reef – more than 1000 miles (1,600 km) long.



Living In Caves.

Animal life in a cave system falls into three groups — troglobites which exist only in caves; troglophiles which can exist in or out of the cave and trogloxines who live on the cave threshold and outside the cave.

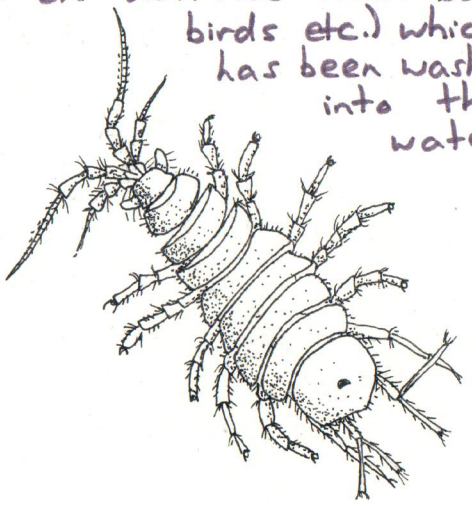
The cave swiftlets of S.E. Asia make their nests by plastering their own sticky saliva on to the cave walls in layers. The nests are completely self supporting and are found from 2½ m (8½ ft) up to the ceiling, over 91 m (300 ft).

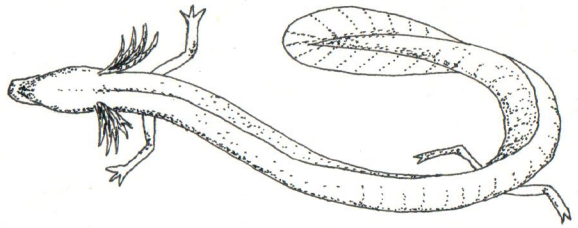


The blind cave fish lives in the underground river systems of N. America. It is colourless and has no eyes as neither of these are useful in a pitch black world.

Some bats roost in caves which insulate against temperature extremes outside. In tropical areas some caves may be occupied by millions of bats. They hang by their feet during the day and leave to feed at dusk, returning at dawn.

The cave isopod has no eyes and is almost transparent. They live in cave pools throughout Europe. These small crustaceans feed on detritus (from bats, birds etc.) which has been washed into the water.

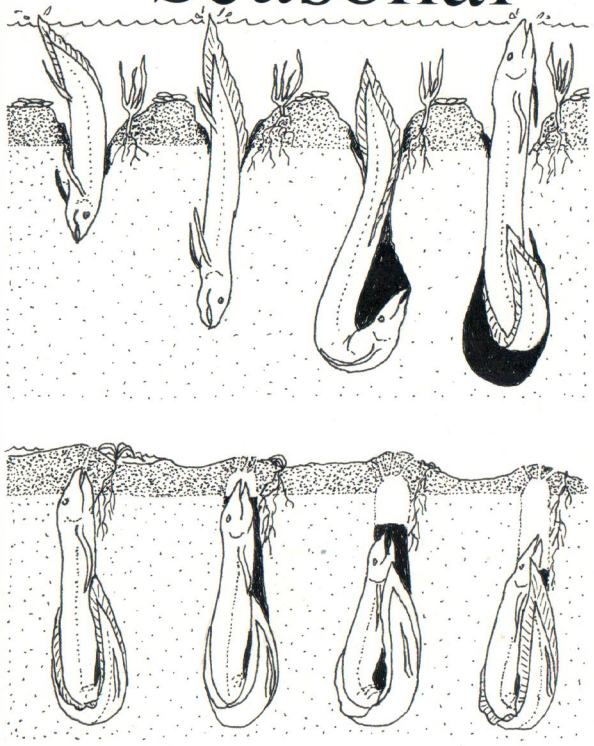




Olms are related to newts and salamanders; they are found only in cave streams and lakes from Austria to Yugoslavia. Olms are pale in colour and their degenerate eyes are hidden beneath the skin. They reproduce at the larval stage (still with gills), and feed on cave crustaceans which are found using smell and touch.

Seasonal Homes.

Some animals have to contend with harsh climatic changes by living part of their lives in a different way.



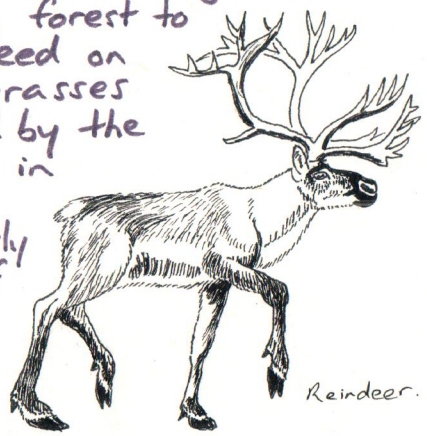
In the African swamps, the lungfish survives the dry season by burrowing into the mud. It curls up in a cocoon of mucus which hardens and so protects the fish from dessication. The lid is sealed with a porous mud through which the lungfish breathes. When the rains return the lungfish breaks out and swims away.

Many small mammals living in temperate areas survive the cold winter by hibernating. The dormouse survives by hibernating from October to April in a nest. It lives in a torpor with a lowered temperature, surviving on its stored body fat.

Common dormouse in hibernation.

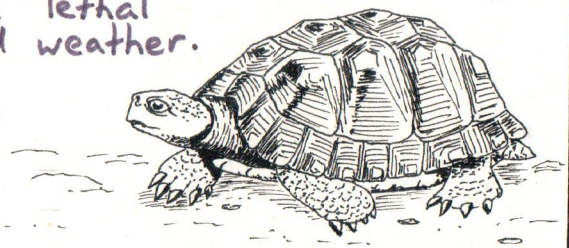
Some toads live in semi-desert conditions. They survive the dry season by aestivating — they live in a burrow surrounded by a cocoon of dry skin and mucous. Once the damp conditions return, they break free from their water conserving cocoon (and eat it).

Caribou and reindeer migrate annually from forest to tundra to feed on lichens and grasses newly exposed by the melting snow in spring. They feed voraciously during the breif summer and migrate back to the warmth and shelter of the forests by October.

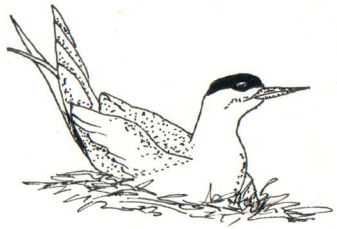


Reindeer.

The Spur-thighed Mediterranean Tortoise is a reptile, and so can not survive cold weather. In the northern part of its range these tortoises enter hibernation underground in October and emerge in April. Thus missing the lethal cold weather.

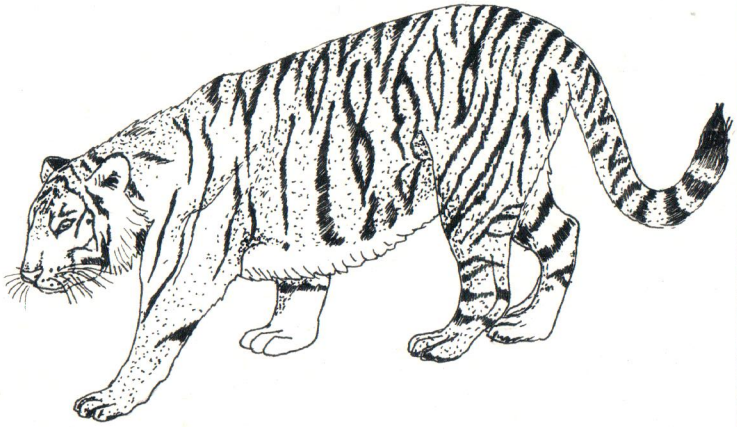


To escape the winter Arctic Terns do an annual trip of over 20 thousand miles. They breed in the Arctic Circle and then fly to the southern hemisphere and Antarctic waters, so enjoying two summers and more daylight than any other animal.



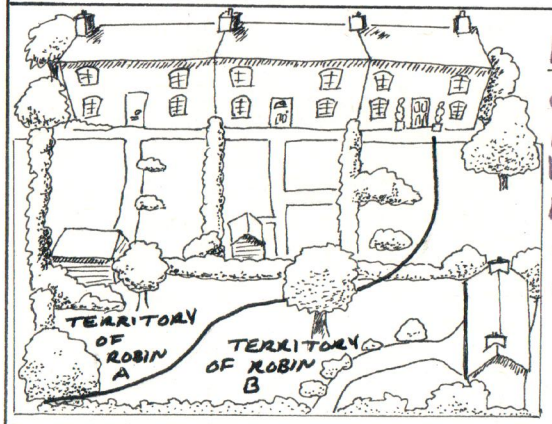
Territories.

A territory is an area used exclusively by an animal (or a group) and is marked out in some way to prevent others using that area.



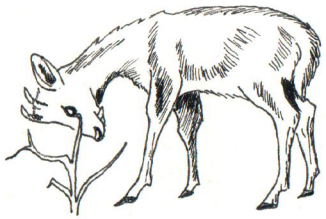
Tigers are solitary animals with territories of 20 km^2 (8 sq. miles) to 100 km^2 (40 sq. miles). They use a variety of methods to maintain exclusive rights to the area, they spray trees, bushes and rocks with a very smelly mixture of urine and anal gland secretions, the leave droppings in conspicuous places and scratch trees.

The solitary and nocturnal European Otter uses scent markings to mark out territorial boundaries and to communicate with other otters. They usually leave spraints (single droppings) in prominent places close to water. Otter spraint has a strong, dank odour which can be detected near to any site that has been visited.



Robins have territories. A male robin claims his own area by singing in the morning and evening to warn others where his boundaries are. Encounters on the boundary often result in aggression, as the sight of a red breast triggers off an instinctive attack.

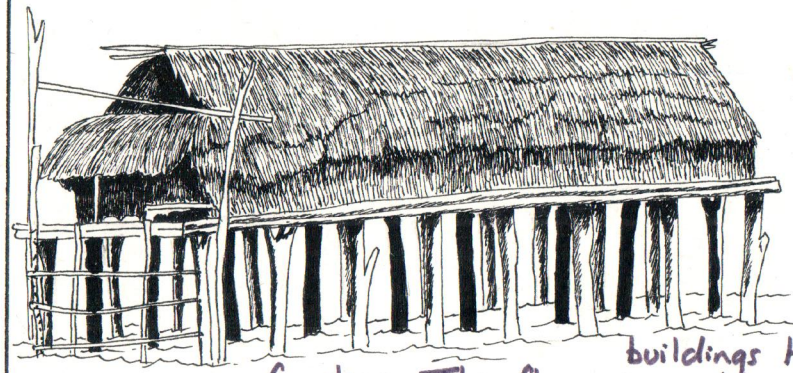
Muntjac are small deer which often live in pairs. They mark their territory by leaving scent marks on twigs, grass stems etc. from a gland just under the eye.



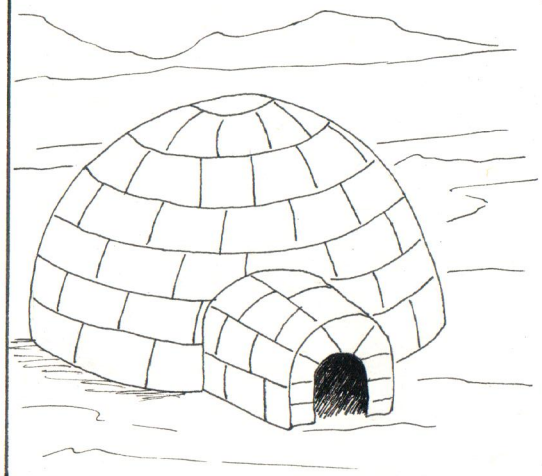
A family group of gibbons maintains exclusive rights to an area of rainforest by using a passive defence system — singing. The song basically says 'I'm here' and keeps neighbours at a distance. Songs can last up to two hours and can be heard a mile or so away.

Human Homes.

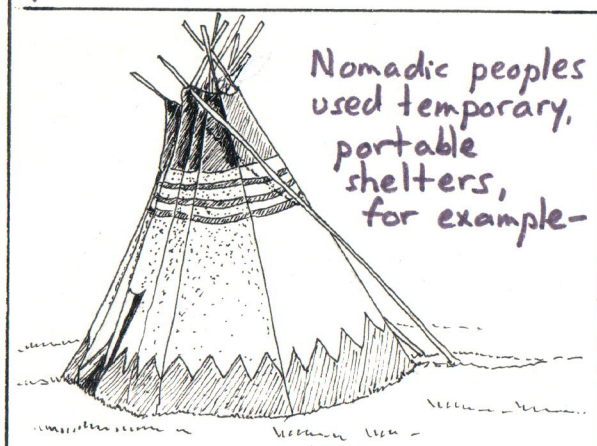
Humans create a miriad of dwelling structures from many materials; they can be permanent or temporary.



The Dyak longhouse is built on piles upto 30ft long, to keep them dry in the wet season. These buildings hold 30 to 50 families. The floor is made of split bamboo, through which all the rubbish falls. The pigs live under the house, and this also serves as a place for storing boats. Entrance is by a notched pole at one end of the veranda.



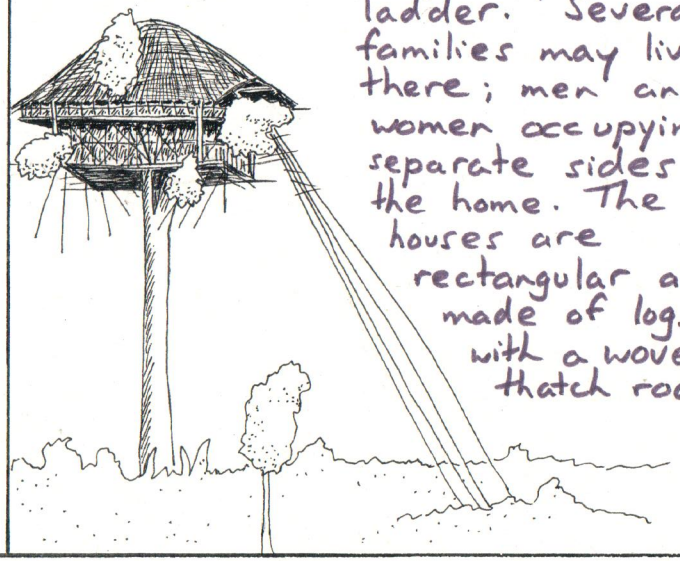
The igloo was the winter residence of the Eskimo (or Inuit). They are built from blocks of snow laid in an ascending spiral. Any gaps are filled with snow, and the resulting building can support the weight of a polar bear. Few Inuit use igloos today as they live all year in modern, heated buildings.



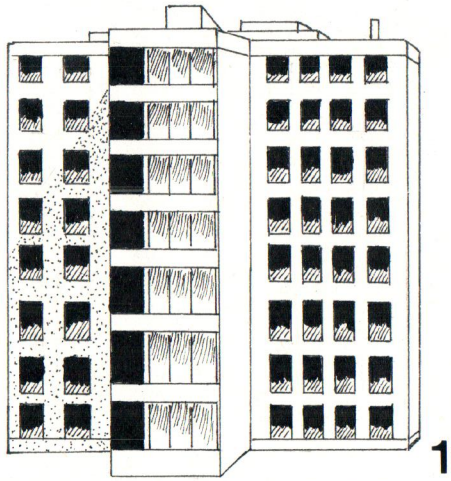
Nomadic peoples used temporary, portable shelters, for example-

North American plains indians lived in teepees. A tripod of poles is covered in stitched skins pegged down at the bottom. A skin flap covers the entrance, a hole at the top allows smoke to escape.

Deep in the tropical rainforest of New Guinea the Mava people live in tree houses 25 metres up. Entry is by a crude ladder. Several families may live there; men and women occupying separate sides of the home. The houses are rectangular and made of logs with a woven thatch roof.

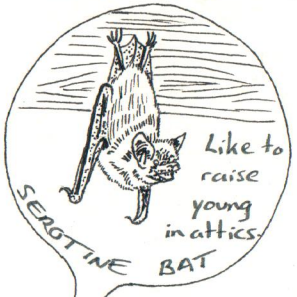


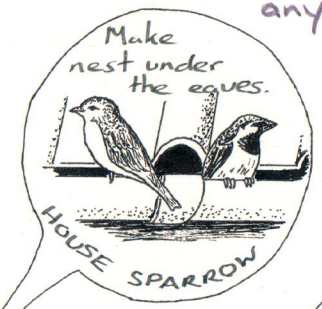
Modern western societies live in a variety of dwellings made from stone, brick, concrete etc. They live in villages, towns or cities, in buildings from small cottages to terraced houses, and from high rise flats and appartments to mansions and palaces.

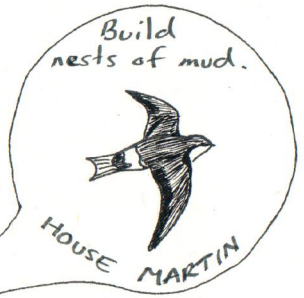


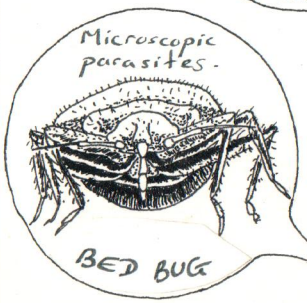
Sharing Your Home.

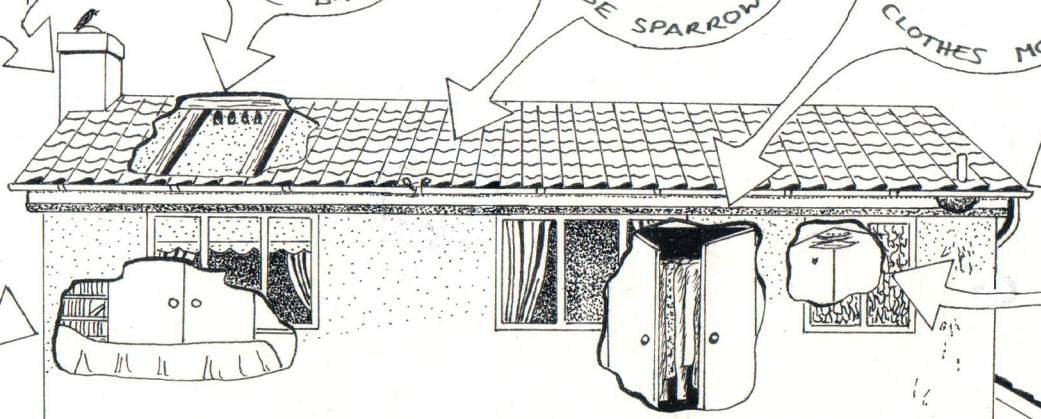
Many animals share our homes without any of us realising; here are a few -

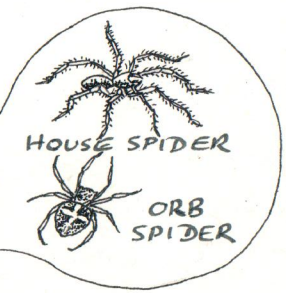


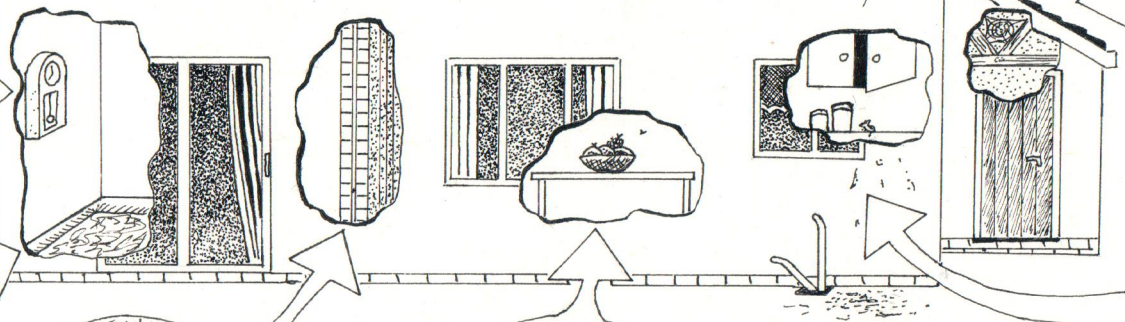


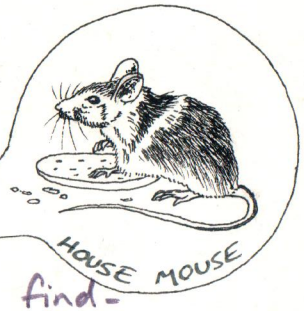


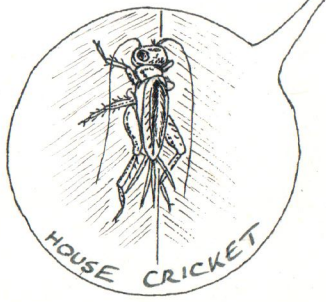


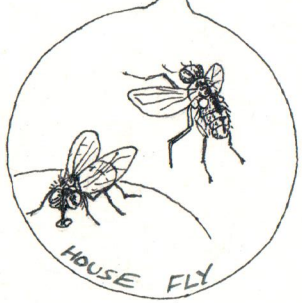








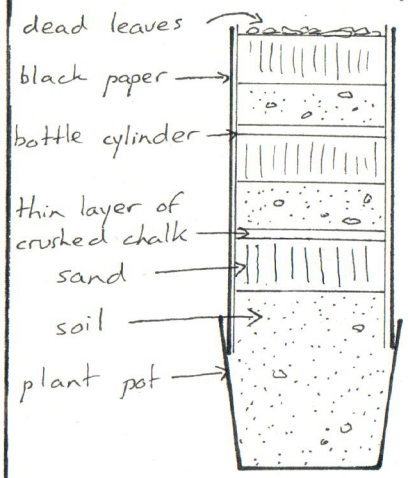




And in the garden you can find - woodlice, ants, slugs, snails, worms, beetles, grasshoppers, ladybirds, aphids, centipedes, millipedes, butterflys, harvestman, shrews, voles, squirrel, fox, hedgehog, thrush, blackbird, wren, blue tit and more.

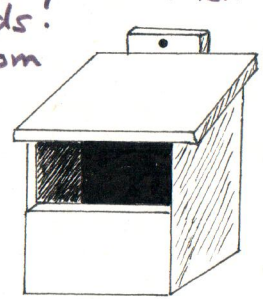
Things To Do At School .

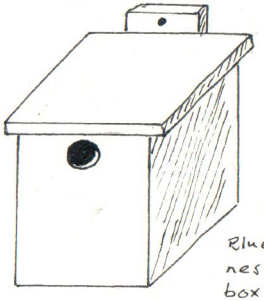
Make a wormery –



Cut top + bottom off a 2 litre plastic lemonade bottle. Fill a plant pot with soil and put 10 earthworms in. Place bottle on top of soil and fill with alternate layers of soil, sand + thin layer of crushed chalk. Mark levels with a pen. Place some dead leaves on top. Cover bottle with black paper. Keep damp (not wet) and leave for a week. Observe what the worms have done to the layers.

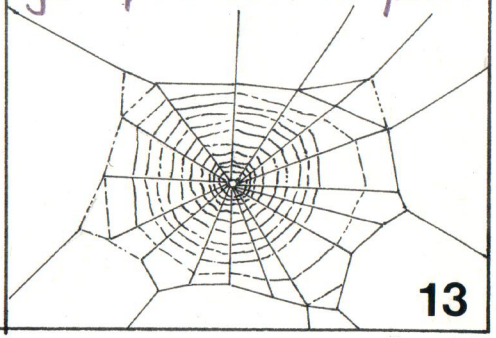
Build nest boxes for birds, or send away to the R.S.P.B. for a kit. Then place them in suitable positions for the birds. Or build bat boxes from un-planed, un-treated wood. Write to the F.F.P.S. for a kit or instructions.


Robin nest box

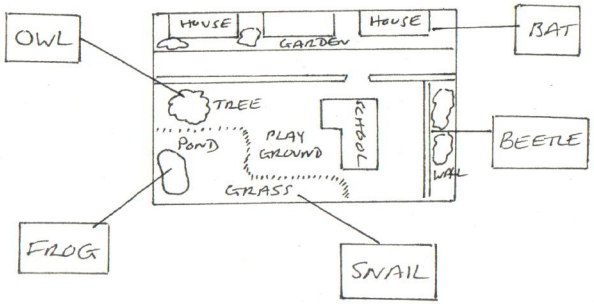

Blue tit nest box

Make nests from :
plasticine, pebbles, clay, twigs, grass, leaves

Make a spider's web. First find a real one + draw it nice and big on some strong card. Fix rows of pins along the 'spokes' where the concentric threads join them. Spread some glue over the card. Put in the concentric threads by winding cotton or wool around the pins. Press the threads on the card + gently remove the pins.



Research about houses in other countries. Compare your home with them. Look at homes people used to live in. Research your local area for old buildings.



Draw a map of the area around your school. Label the places where animals could live eg tree, cracks in walls etc. Draw the animals and use string to point where they live.

Migration –
Mark the route, on a map of the world, taken by :
Swallow – N. Europe to S. Africa
Arctic Tern – Arctic to the Antarctic
Great Shearwater – Tristan de Cunha Islands via Newfoundland to France + Spain.
Atlantic Salmon – Scotland rivers to western Greenland.
Grey Whale – Gulf of California to Bering Sea
Monarch Butterfly – Mexico to Canada

Who lives in an oak tree?

Create an oak tree collage with lots of birds, mammals and insects on it.

Where Do I Live?

NAME THE ANIMALS AT PENSCYNOR THAT LIVE IN BURROWS :

NAME THE BIRDS AT PENSCYNOR THAT MAKE NESTS IN TREE HOLES

NESTS ON THE GROUND

HANGING NESTS

NESTS OF MUD

NAME THE APE AT PENSCYNOR WHICH MAKES A NEW NEST EVERY NIGHT :

NAME THE ANIMALS AT PENSCYNOR THAT MARK THEIR TERRITORIES WITH SCENT :

DESCRIBE THE SMELL

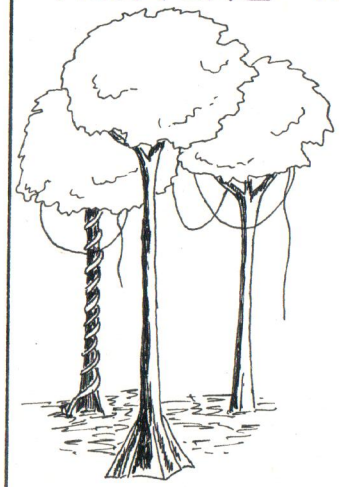
DRAW AN ANIMAL ENCLOSURE :

HOW DO GIBBONS MARK OUT THEIR TERRITORIES ?

Habitats.

HERE ARE SOME HABITATS. CAN YOU NAME THE ANIMALS AT PENSCYNOR THAT LIVE IN THEM?

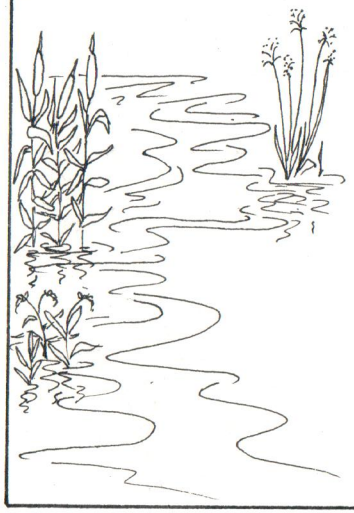
TROPICAL RAINFOREST - Name 5



DESERT - Name 1.

GRASSLAND - Name 3

WETLANDS - NAME - 4



RIVERS - Name 2

SEA - Name 2.

Teacher's Answer Sheet.

WHERE DO I LIVE (Possible Answers)

BURROWS - Prairie Dog, Rabbit, Humboldt's Penguin.

TREE HOLES - Parrots, Hornbill.

GROUND NESTS - Pheasants.

HANGING NESTS - Weaver Finch

MUD NEST - Flamingo

APES NEST - Chimpanzee

SCENT MARKING - Muntjac, Lemur, Marmoset, Otter, Jungle Cat.

GIBBONS - Use loud vocalisations or songs to announce their territory.

HABITATS (Possible Answers).

RAINFOREST - Mandrill, Chimp Tamarins, Marmosets, Capuchin, Colobus, Gibbon, Toucan, Hornbill, Boa, Python, Iguana, Parrots, Jungle Cat, Coati.

WETLANDS - Ibis, Spoonbill, Frog, Fish Eagle, Terrapin, Flamingo, Ducks, Macaque.

DESERT - Cockatiel, Emu, Guanaco.

GRASSLAND - Lovebird, Emu, Guineafowl, Caracara, Crane, Prairie Dog, Wallaby, Guanaco, Shetland Pony, Viperine

RIVERS - Otter, Heron, Ducks, Trout, Pirahna.

SEA - Humboldt's Penguin, Sea Lion, Eider Duck, Shelduck, Sea Anemone, Clown Fish.

GLOSSARY

Calcarious - contains calcium carbonate (limestone).

Coral Polyp - a single coral animal.

F.F.P.S. - Fauna and Flora Preservation Society, 78-83 North St., Brighton. BN1 1ZE. Send s.a.e.

Larva - immature stage of insect life cycle eg. caterpillar, maggot.

Lichen - a "combination organism" of fungus and algae.

Isopod - a type of crustacean (related to crabs)

R.S.P.B - Royal Society for the Protection of Birds, The Lodge, Sandy, Beds.

Temperate - areas which have a climate of summer, autumn, winter and spring.

Tundra - treeless plain of the arctic and antarctic.

Penscynor Wildlife Park Handy Plan

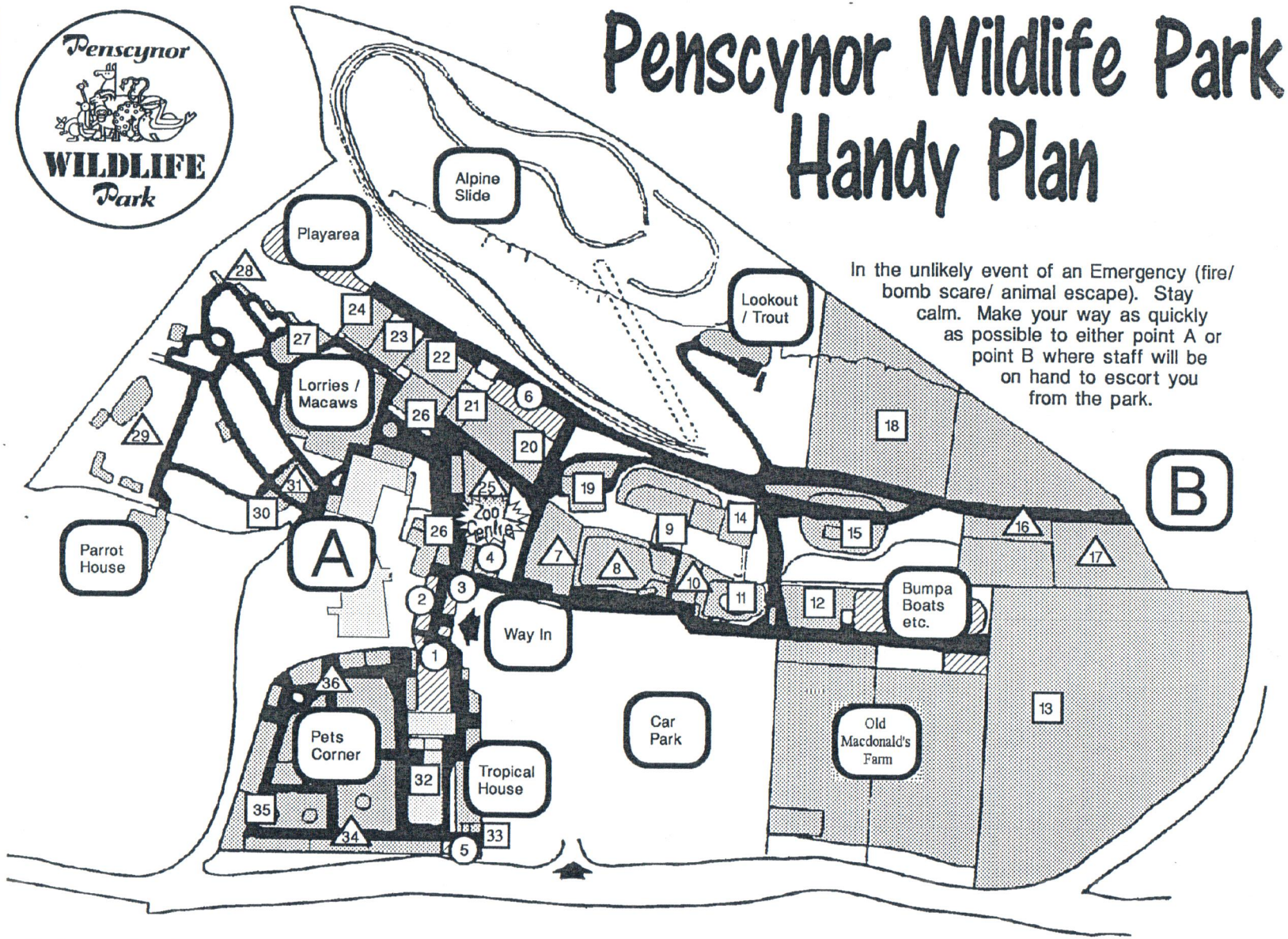
Useful Locations

The Zoo Centre is located next to Penguin Pool (7), between Burger Bar (4) and Waterfowl aviary (25)

1. Main Office
   First Aid Point
   Gift shop
   Copper Kettle Coffee Shop
2. Toilets
3. Toy Shop
   Ice-Creams
4. Burger Bar
5. Book shop / Sweet shop
6. Picnic Area

Enclosure key

□ - Mammals △ - Birds



In the unlikely event of an Emergency (fire/ bomb scare/ animal escape). Stay calm. Make your way as quickly as possible to either point A or point B where staff will be on hand to escort you from the park.

7. Penguins
   Pelican
8. Waterfowl
   Trout
   Squirrel Monkeys
9. Chimpanzees
10. Scarlet Ibis
    White Fronted Wood-Duck
11. Empty At Present
12. Meerkats
13. Shetland Pony
    Guanaco
    Deer
14. Black & White Ruffed Lemurs
15. Emperor Tamarin Island
    Trout
16. Rheas
17. African Crowned Crane
18. Wallabys
    Muntjac
19. Marmoset House
20. Prairie Dogs
21. Pygmy Goats
22. Empty at present.
23. Lar Gibbons
24. Ring-Tailed Lemurs
25. Sacred Ibis
    Night Herons
    Silver Gulls
    Demoiselle Cranes
26. Sooty Mangabeys
27. Asian Short-Clawed Otters
28. Hillside Parrot Aviaries
29. Flamingos
30. Porcupines
    Mongooses
31. African Fish-Eagle
32. Eastern Black and White Colobus
33. Dourocouli Monkeys
34. Mixed Aviaries
35. Farm Animals
    Rabbits
    Guinea Pigs
    Polecats
36. Mixed Aviaries