Appendix 1 Text List

Text 1 Newt

No	Conjunction	CLAUSES	Process Type	Move
1.1		**Newts** are **amphibians**	Relational	To defines species
1.2	so	**they** can live *both in water and on land*	Verbal	
1.3		**They** begin **their lives** *in the water*	verbal	To state the habitat
1.4		moving *onto the land* **as adults**	Material	
1.5		**Newts** live *in damp woods in Europe,Asia and North America*	Verbal	
1.6		**Newts living in water, like the great crested newt below ,** have *moist skin*	Attributive	To describe physical characteristic
1.7		**Land-living newts** are called **efts**	Identifying	To defines species and to describe physical characteristic
1.8	and	have *rough dry skin*	Attributive	
1.9		**All newts** return *to water*	Verbal	To state the habitat and to state mating season
1.10		to breed	Material	
1.11		*In Spring*, **females** return *to the water*	Verbal	To state the habitat and to state mating season
1.12		to mate	Material	
1.13	and	lay **eggs**	Material	
1.14		**Each egg** hatches **into a tadpole with feathery gills on its body** *for breathing*	Verbal	To state growth stage
1.15		**Legs and lungs** begin *to grow*	Verbal	
1.16	and	**the gills** dissappear	Material	
1.17		*By autumn*, **the newt is fully grown and able to crawl**	Verbal	

1.18		**Newts are** related **to salamanders**	Relational	To define species
1.19		**Most Salamanders, like this fire salamander** live *on land*	Verbal	To defines species and to state mating season
1.20	and	**only** returrn *to the water*	Verbal	
.1.2 1		to breed	Material	
1.22		**They are not good swimmers and** will drown *in deep water*	Verbal	To describe physical characteristic

Text 2 Donkey

No	Conjunction	CLAUSES	Process Type	Move
2.1		*Patient*	Attributive	To mention behavior and to describe physical characteristic
2.2	and	*Strong*		
2.3		**donkey** are used *all over the world*	Verbal	To state information and to mention a function
2.4		to carry **people and goods**	Material	
2.5		*Their small feet and thick coats* make them **suited to working in dry, rocky places**	Verbal	To describe physical characteristic and to state habitat
2.6		**Because they** are *quiet animals and gentle with young children*	Mental	To describe physical characteristic and to state information
2.7		**donkey** are often **kept as pets**	Verbal	
2.8		**Donkeys are descended from wild asses that** were tamed **by the ancient Egyptians**	Verbal	To mention origins
2.9		**Wild asses** look *very similar to donkey, with large pointed ears and small hoves*	relational	To define species and To describe physical characteristic
2.10		**They** have *thin black stripes on their legs, unlike donkeys*	Attributive	
2.11		**Donkey** lives *for up to 40 years*	Verbal	To state information

2.12		**Donkeys can be used for** pulling **carts**	Material	To mention a function
2.13		**as well as for** riding	Material	
2.14		**A female donkeys** is called **a jenny**	Identifying	To define name
2.15		**A male** is called **a jack**	Identifying	
2.16		**Mules** are a cross between **a male donkey and a female horse**	relational	to state information
2.17		**Donkeys range in colour** from almost **white to nearly black**	Attributive	To describe physical characteristic And to mention differences
2.18		**They** usually **have two dark stripes**	Attributive	
2.19		running along **their backs and their shoulders**	Material	
2.20		*Unlike horses, only the ends of their tails* have *long hairs*	Attributive	
2.21		**Donkeys** are *usually good workers*	Verbal	To state information
2.22		**They** can also *be stubborn*	Mental	To mention behavior
2.23	and	will make *a loud braying noise*	Verbal	
2.24		**if they** are *angry or upset*	Mental	

Text 3 Dragonfly and Damselfly

No	Conjunction	CLAUSES	Process Type	Move
.31		**Dragonflies** are *the fastest flying insects*	Verbal	To describe physical characteristic and to state habitat
3.2		swooping over **the streams**	Material	
3.3	and	**ponds where they** live *at up to 90 kilometres per hour*	Verbal	
3.4		**Damselflies** have *longer, thinner bodies*	Attributive	To describe physical characteristic
3.5	and	are *more delicate, with a slow, fluttering flight*	Verbal	

3.6		**Dragonflies and damselflies** live *near water*	Verbal	To state habitat
3.7		*The young*, called **nymphs**	Identifying	to define name and to state growth stage
3.8		hatch **from eggs**	Material	
3.9		laid *on plants*	Material	
3.10		**They** feed *on other water creatures*	Verbal	
3.11	and	*after two years* **the nymphs** grow **into adults**	Relational	
3.12		To make **a model dragonfly**	Material	To describe process of toy making
3.13		**start by** blowing up *a long balloon*	Material	
3.14		**Twist and tie the balloon** twice	Material	
3.15		to make **the three body sections**	Material	
3.16		*then* cover **the balloon with several layers papier mache**	Material	
3.17		*When this is dry,* paint **the body**	Material	
3.18		Make **the wings from wire bent into shape**	Material	
3.19		Cover them *with clear cling film*	Material	
3.20		*then* fasten them **to the body with some more wire**	Material	
3.21		Attach **pipe cleaners**	Material	
3.22	or	straws *to the middle section* **for the legs**	Material	
3.23		**For the eyes**, cut **a ping-pong ball** *in half*	Material	
3.24	and	glue them *to either side of the head*	Material	

Text 4 Frog and Toad

No	Conjunction	CLAUSES	Process Type	Move
4.1		**Frogs and toads** are **amphibians**	Relational	To defines species and to state habitat
4.2	so	**they** live *both in water and on land*	Verbal	
4.3		**Frogs** have *moist skin*	Attributive	To describe physical characteristic and to mention difference
4.4	but	**toads** are *normally dry*	Attributive	
4.5	while	**frogs** use *their strong back legs for jumping*	Attributive	To describe physical characteristic and to mention difference
4.6		**toads** walk	Verbal	
4.7		**Both animals** are *good swimmers*	Verbal	To describe physical characteristic
4.8		**Many tropical frogs** are *brightly coloured*	Verbal	To describe physical characteristic and to mention a function
4.9		*This* warns **other animals**	Verbal	
4.10		**that they** are *poisonous*	Attributive	
4.11		**The poison of the South American poison dart frog** is *so strong*	Attributive	To mention a function
4.12		**that native people** put it *on the tips of their arrows*	Material	
4.13		**The female Surinam toad** has *special pockets on her back*	Attributive	To describe physical characteristic and to state growth stage
4.14		**in which her eggs** grow	Verbal	
4.15		*After 80 days*, *the young toads* emerge **from the pockets**	Verbal	
4.16		**Most frogs and toads** lay **their eggs**	Material	To state growth stage and to define name
4.17		called **spawn** *in water*	Identifying	
4.18		*After two weeks*, **tadpoles** hatch	Attributive	To state growth stage and to state habitat

4.19		*Like fish*, **they** breath **through gills**	Verbal	
4.20	but	*gradually* grow **legs**	Verbal	
4.21		*After three months*, **the gills** shrink	Verbal	
4.22		**the tails** gets short	Verbal	
4.23	and	**the lungs** develop	Verbal	
4.24		*The tiny frogs* are able *to leave the water*	Verbal	
4.25	and	grow **into adults** *on land*	Verbal	

Text 5 Owls

No	Conjunction	CLAUSES	Process Type	Move
5.1		**Owls** are **birds of prey**	Relational	To define species and to describe behavior
5.2	that	hunt *mainly at night*	Verbal	
53.		They use *their sensitive hearing*	Verbal	To describe physical characteristic and to mention a function
5.4	and	*large eyes* to catch **animals such as mice and rabbits**	Material	
5.5		**Owls** have *soft feathers*	Attributive	To describe physical characteristic and to mention a function
5.6	that	allow them *to fly silently*	Verbal	
57.		**The hooting cry of some species** is **easy to recognize**	Identifying	To defines species
5.8		**Tawny owls were once** found *only in woodlands*	Identifying	To state habitat and to mention food
5.9		*Today*, **they also** live *in towns and cities*	Verbal	
5.10	where	**they** hunt **mice and rats**	Material	

5.11		*During the day*, **they** settle *in the trees of parks and gardens*	Verbal	
5.12		**The burrowing owls of North and South America** live *in burrows in the ground*	Verbal	To state habitat and to mention behavior
5.13		**They either** dig **a hole themselves**	Material	
5.14	or	use one **left by another animal**	Material	
5.15		such as **a gopher**	Verbal	
5.16		**Owls** can swivel **their heads**	Material	To describe physical characteristic and to mention function
5.17		almost **all the way round**	Verbal	
5.18	when	**they** are listening **for sounds**	Material	
5.19		**Snowy owls** live *in the Arctic*	Verbal	To state habitat and to mention food
5.20		**They mainly** hunt **lemmings**	Verbal	
5.21		**These owls** nest *on the ground*	Verbal	
5.22		**Barn owls** build nests *in buildings, hollow trees or old hawk's nests*	Material	To state habitat
5.23		*The round, flat shape of the barn owl's head* helps it **to hear its prey**	Verbal	To describe physical characteristic
5.24		*Once* it has **caught the animal**	Verbal	To mention behavior
5.25		**the adult** brings it *to the chicks in the nest*	Material	

Text 6 Panda

No	Conjunction	CLAUSES	Process Type	Move
6.1		**The giant panda** is **a bear**	Relational	To defines species and to state habitat
6.2		found *in just a few high bamboo forests in China*	Verbal	
6.3		**There are probably no more than 1500 giant pandas** left *in the wild*	Verbal	To state information
6.4		**About 100** are kept *in zoos around the world*	Verbal	
6.5		**Pandas** have **one or two cubs at a time**	Attributive	To state growth stage
6.6		*At birth*, **a cub weighs** only **100 grams**	Verbal	
6.7		*At first* **the mother** hold it **close to her chest** *at all times*	Verbal	
6.8	but	it grows *quickly*	Material	
6.9	and	**after ten weeks the cub starts** to crawl	Material	
6.10		**Giant pandas usually only** eat **bamboo**	Material	To mention food
6.11		**To help them** grasp **the stems,**	Material	To describe physical characteristic and to mention function
6.12		**they** have *an extra pad on their front paws*	Attributive	
6.13	that	works *like a thumb*	Verbal	
6.14		**Giant pandas** have become *rare*	Verbal	To state information
6.15	since	**their forest** have been **cut down**	Material	
6.1	and	**because they were once** hunted **for**	Material	

6		**their fur**		
6.17		**Red pandas** look *very much like raccoons*	Relational	To defines species
6.18		**They** live *high up in the mountain forests of the Himalayas, from Nepal to China*	Verbal	To state habitat
6.19		**They** feed *at night on roots, acorns, bamboo and fruits*	Verbal	To mention food

Text 7 Platypus

No	Conjunction	CLAUSES	Process type	Move
7.1		**The platypus** is *a strange animal*	Relational	To defines species
7.2		*It is part of a small group of animals* called **monotremes**	Identifying	To define species and to describe physical characteristic
7.3		**which** have **features of both mammals and reptiles**	Verbal	
7.4		**It** has *a beaver's tail, a duck's bill and webbed feet*	Attributive	
7.5		*Like a reptile*, **it** lay **eggs**	Verbal	To state growth stage
7.6	but	it gives **milk** *to its young,*	Material	
7.7		just **as mammals do**	Material	
7.8		**The platypus** is found *in Australia and Tasmania*	Verbal	To state habitat
7.9		*Like the otter*, **the platypus** lives *in a burrow*	Verbal	To state habitat
7.10	and	hunts *in the water*	Material	
7.11		**The platypus** has **fur**	Attributive	To describe physical characteristic
712.		*similar* to **an otter's**	Relational	
7.13		**Even its flat tail** is covered **in fur**	Material	
7.14		*When swimming*, **the platypus** paddles *with its front feet*	Material	To describe physical

7.15	and	steers *with its back feet and tails*	Material	characteristic and to mention function
7.16		**It** uses *its sensitive, rubbery bill*	Material	
7.17		to find *food in the muddy beds of the rivers and lakes where it lives*	Material	
7.18		**Platypus** eat **crayfish, shrimp, worms, frogs and small fish**	Material	To mention food
7.19		**They need** to eat **their own weight** *in food everyday*	Verbal	To state information
7.20		**The only other monotremes** are *the spiny anteaters of New Guinea and Australia*	Relational	To defines species
7.21		**The platypus** grows *to be 60 cm long*	Verbal	To describe physical characteristic
7.22		**Each adult platypus** lives *alone in its own burrow*	Verbal	To mention behavior
7.23		**Before laying her eggs, the female platypus** makes a nest *at the end of her burrow*	Material	To mention behavior
7.24		**She** lays **two or three eggs**	material	To state growth stage and to mention behavior
7.25		*then* seals **the opening of the tunnel**	Material	
7.26		to stop **predators entering**	Material	

Text 8 Polar Bear

No	Conjunction	CLAUSES	Process type	Move
8.1		**Polar bears** live *in the frozen regions of the Arctic,*	Verbal	To state habitat
8.2	where	**they** hunt and raise **their young**	Material	
8.3		**Their white fur** makes them *almost invisible in the snow*	Attributive	To describe physical characteristic
8.4		**They mainly** feed **on seals**	Verbal	To mention food
8.5		**but also** eat **fish, geese and ducks**	Material	
8.6		**They** are *the only one northern bears*	Relational	To state information
	that	**do not** hibernate *in the winter*	Material	

8.7				
8.8		**Polar bears** have *thick, oily coats and a layer of fat*	Attributive	To describe physical characteristic
8.9		to protect them *from the icy temperatures*	Material	
8.10		*which* can drop *to -30°C*	Verbal	
8.11		**Polar bears** are *good swimmers*	Verbal	To state information
8.12		**they have to be** to cross **the moving pack of ice**	Material	
8.13		**They are often found** swimming *in the sea many kilometres away from an ie pack or land*	Material	To mention behavior
8.14		*Their large, furry feet* make *good paddles for swimming*	Verbal	To describe physical characteristic
8.15		**Polar bears** often wait *at the breathing holes of seals*	Verbal	To mention behavior and to mention food
8.16		**When the seal** come up **for air, the bear catches it, kills it and then eats it**	Material	
8.17		**Male polar bear** weigh up *to 800 kilograms*	Verbal	To describe physical characteristic
8.18		**Baby polar bears** are born *in winter in ice dens*	Verbal	To state growth stage
8.19		**They** stay *in these with their mothers*	Verbal	
		until it gets *warmer*	Verbal	
8.20		**Polar bears** live *alone*	Verbal	To mention behavior and to state mating season
8.21	and	*only* meet	Verbal	
8.22	when	**they** go *south*	Verbal	
8.23		to mate	Material	
8.24		**They** go *as far as the mouth of the Amur River in Russia and the Gulf of St Lawrence in Canada*	Verbal	

Text 9 Rattlesnake

No	Conjunction	CLAUSES	Process type	Move
9.1		**Rattlesnakes** are found *in North and South America*	Verbal	To state habitat
9.2		**They** are named *after their spooky rattle*	Relational	To define names and to describe physical characteristic
9.3		**which** warns **other animals**	Verbal	
9.4	that	**they** are *very poisonous*	Verbal	
9.5		**There** are about *30 species of rattlesnakes*	Verbal	To state information
9.6		**The sidewinder** is **a rattlesnake**	Relational	To define species and to state habitat
9.7	that	lives *in sandy deserts in Mexico and the south western United States*	Verbal	
9.8		*Its unusual method* of moving sideways	Material	To mention behavior
9.9		leaves *a distinctive trail*	Material	
9.10		**Most rattlesnakes** rest *during the day*	Verbal	To mention behavior and food
9.11	and	hunt **small rodents** *at night*	Verbal	
9.12		**They** detect **prey**	Material	To describe physical characteristic
9.13		by 'tasting' *the air for smells with their forked tongue*	Material	
9.14		**As the prey** moves *closer the rattlesnake*	Verbal	To describe physical characteristic
9.15		feels *its body warmth with heat-sensitive pits on the side of its face*	Material	
9.16		*Inside a rattlesnake's tail* is *a set of hard, loose pieces*	Attributive	To describe physical characteristic
9.17		**It is these** that produce *the rattling noise*	Verbal	
9.18		**You** can make **your own rattle**	Material	To describe process toy making and to mention function
9.19		by threading *some bottle tops*	Material	
9.20		onto *a long nail*	Material	
9.21		attaching it *to a length of wood*	Material	

9.22		**You might** scare *a few people*	Material	
9.23		*At 2.5m long, the eastern diamondback* is *the biggest rattlesnake*	Verbal	To defines species
9.24		**A rattlesnakes's poison** comes out *of two fangs in its upper jaw*	Attributive	To describe physical characteristic and to state information
9.25		**The bite of a rattlesnake** can be *deadly*	Verbal	

Text 10 Ray

No	Conjunction	CLAUSES	Process type	Move
10.1		**Rays** are *fish with flat fins shaped like wings*	Relational	To describe physical characteristic
10.2		**Their eyes** are *on the top of the body*	Verbal	
10.3	and	**the mouth** underneath	Verbal	
10.4		**Rays often** lie *on the seabed*	Verbal	To mention behavior
10.5		half-buried *in the sand*	Material	
10.6		**waiting** to catch **other fish and shellfish**	Material	
10.7		**They** are found *in all the world's seas, especially warm waters*	Verbal	To state habitat
10.8		**Manta rays** measure *over seven metres across*	Verbal	To describe physical characteristic
10.9		**They sometimes** leap out *of the water*	Verbal	To mention habit
10.10		to get rid *of animals living on their bodies*	Material	
10.11		**Torpedo rays** are also called **electric rays**	Relational	To define species and to describe physical characteristic
10.12	because	**they** give **their prey an electric shock to stunt it**	Material	
10.13		**The electricity** is made *in muscles in the ray's head*	Attributive	
10.14		**The shock from a torpedo ray** can be *up to 220 volts*	Verbal	

10.15		**enough** to knock down **an adult human**	Material	
10.16		**The manta ray** is often called **the devilfish because of its horns**	Relational	To define species and to describe physical characteristic
10.17		**The manta ray** uses **its horns**	Material	
10.18		to guide *tiny sea animals like plankton into its mouth*	Material	
10.19		*The spines on a stingray's tail* can give *a painful sting*	Verbal	To describe physical characteristic

Appendix 2

Total process are used in the texts

Move	Relational	Verbal	Material	Attributive	Identifying	Mental
To define species	1. newt 2. donkey 3. frog & toad 4. owls 5. panda 6. platypus 7.rattlesnake 8. ray					
To state habitat		1. newt 2. donkey 3. dragon fly 4. frog & toad 5. owls 6. panda 7. platypus 8. polar bear 9.rattlesnake 10. ray	1. newt 2. owls			
To describe physical characteristic	1. ray	1. newt 2.donkey 3. dragonfly 4. frog & toad 5.owls 6.platypus 7.polar bear 8.rattlesnake 9.ray	1. donkey 2.dragonfly 3.owls 4.platypus 5.rattlesnake 6.ray	1. newt 2.donkey 3.dragonfly 4.frog & toad 5.owls 6.panda 7.platypus 8.polar bear 9.rattlesnake 10.ray		1. donkey
To state mating season		1. newt 2. polar bear	1. newt 2.polar bear			
To state growth stage	1.dragonfly	1. newt 2.dragonfly 3.frog & toad	1.newt 2.dragonfly 3.frog & toad	1. panda		

		4.panda 5.platypus 6.polar bear	4. panda 5.platypus			
To mention behavior		1. owls 2.platypus 3.polar bear 4.rattlesnake 5.ray	1.owls 2.platypus 3.polar bear 4.rattlesnake 5.ray	1.donkey		
To state information	1.polar bear	1.donkey 2.panda 3.platypus 4.polarbear 5.rattlesnake	1.panda 2.polar bear			
To mention function		1.panda	1.donkey 2. owls 3.platypus 4.rattlesnake			
To mention origin	1.donkey	1.donkey				
To defines name	1.rattlesnake				1.donkey 2.dragonfly 3.frog & toad	
To mention differences		1.frog & toad		1.donkey 2.frog & toad		
To describe process of toy making			1.dragonfly 2.rattlesnake			
To mention food		1.owls 2.panda 3.platypus	1.owls 2.panda 3.polar bear			

Appendix 3

Frequency of process used in the texts

process types	newt	donkey	dragonfly	frog	owls	panda	platypus	polar bear	rattlesnake	ray	total	%
relational	2	2	2	1	1	2	3	1	2	3	19	8.18
verbal	11	7	5	14	13	9	7	14	11	8	99	42.67
material	5	4	16	2	8	6	13	8	10	7	79	34.05
attributive	2	5	1	7	1	2	2	2	2	1	25	10.77
identifying	1	2	1	1	2	-	1	-	-	-	8	3.44
mental	-	2	-	-	-	-	-	-	-	-	2	0.86
total											232	

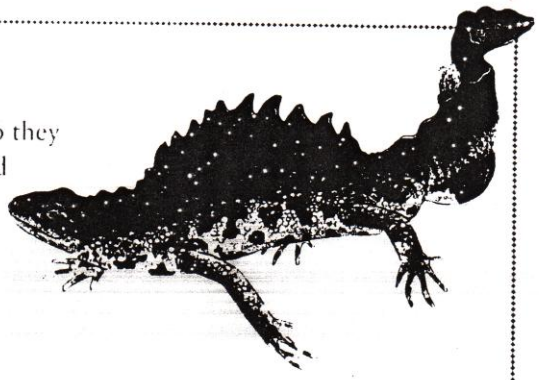
Appendix 4

Total moves are used in the texts

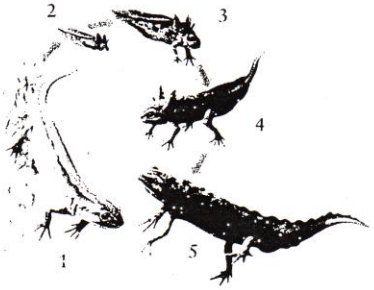
move elements	newt	donkey	dragonfly	frog	owls	panda	platypus	polar bear	rattlesnake	ray	total	%
to define species	4	1	-	1	2	2	2	-	2	2	16	11.94
to state habitat	3	1	2	2	4	1	2	1	2	1	19	14.17
to describe physical characteristic	3	5	2	5	4	1	4	4	5	5	38	28.35
to state mating season	3	-	-	-	-	-	-	1	-	-	4	2.98
to state growth stage	1	-	1	2	-	1	2	1	-	-	8	5.97
to mention behavior	-	2	-	-	3	-	3	2	2	1	13	9.70
to state additional information	-	4	-	-	-	2	1	2	2	-	11	8.20
to mention function	-	2	-	-	3	1	1	-	1	-	8	5.97
to mention origin	-	1	-	-	-	-	-	-	-	-	1	0.74
to defines name	-	1	1	1	-	-	-	-	1	-	4	2.98
to mention differences	-	1	-	2	-	-	-	-	-	-	3	2.23
to describe process of toy-making	-	-	1	-	-	-	-	-	1	-	2	1.49
to mention food	-	-	-	-	2	2	1	2	-	-	7	5.22
total											134	

Newt

Newts are amphibians, so they can live both in water and on land. They begin their lives in the water, moving onto the land as adults. Newts live in damp woods in Europe, Asia and North America.



△ In spring, some male newts become brightly coloured or grow large crests in order to attract the females.



Newts go through several stages of growth in their lives. 1 In spring, females return to the water to mate and lay eggs. 2 Each egg hatches into a tadpole, with feathery gills on its body for breathing. 3,4 Legs and lungs begin to grow and the gills disappear. 5 By autumn, the newt is fully grown and able to crawl onto land.

Newts living in water, like the great crested newt below, have moist skin. Land-living newts are called efts and have rough, dry skin. All newts return to water to breed.

△ Newts are related to salamanders. Most salamanders, like this fire salamander, live on land, and only return to the water to breed. They are not good swimmers and will drown in deep water.

Find out more

Frog and Toad
Komodo dragon and Iguana
Lizard

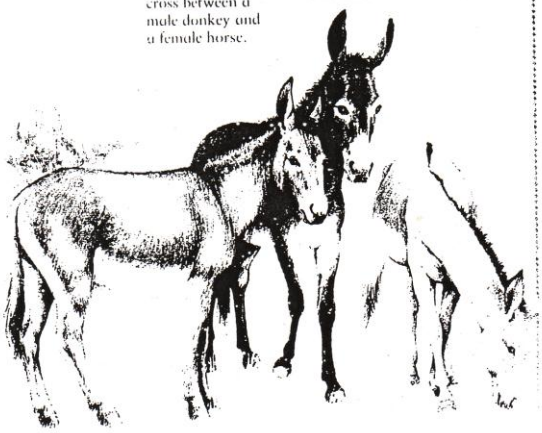
Donkey

Patient and strong, donkeys are used all over the world to carry people and goods. Their small feet and thick coats make them suited to working in dry, rocky places. Because they are quiet animals and gentle with young children, donkeys are often kept as pets.

Fact box

- Donkeys live for up to 40 years.
- Donkeys can be used for pulling carts as well as for riding.
- A female donkey is called a jenny, a mule is called a jack.
- Mules are a cross between a male donkey and a female horse.

▽ Donkeys range in colour from almost white to nearly black. They usually have two dark stripes running along their backs and across their shoulders. Unlike horses, only the ends of their tails have long hairs.



▽ Donkeys are descended from wild asses that were tamed by the ancient Egyptians. Wild asses look very similar to donkeys, with large pointed ears and small hooves. They have thin black stripes on their legs, unlike donkeys.

▽ Donkeys are usually good workers. They can also be stubborn and will make a loud braying noise if they are angry or upset.

Find out more

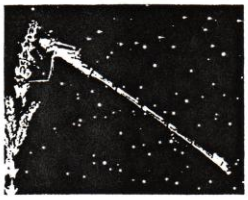
Horse

Zebra

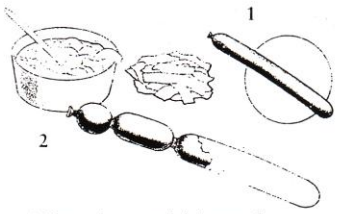
Dragonfly and Damselfly

Dragonflies are the fastest flying insects, swooping over the streams and ponds where they live at up to 90 kilometres per hour. Damselflies have longer, thinner bodies and are more delicate, with a slow, fluttering flight.

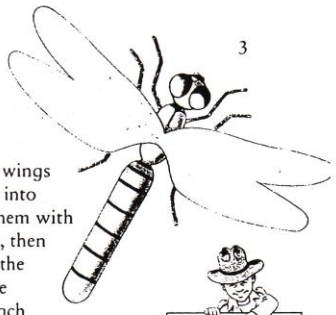
△ Dragonflies and damselflies live near water. The young, called nymphs, hatch from eggs laid on plants. They feed on other water creatures, and after two years the nymphs grow into adults.



▷ The wings of the damselfly are almost transparent. They shimmer as the damselfly searches for small insects to eat.



△ 1 To make a model dragonfly start by blowing up a long balloon. 2 Twist and tie the balloon twice to make the three body sections, then cover the balloon with several layers of papier mâché. When this is dry, paint the body.



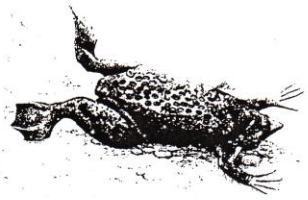
▷ 3 Make the wings from wire bent into shape. Cover them with clear cling film, then fasten them to the body with some more wire. Attach pipe cleaners or straws to the middle section for the legs. For the eyes, cut a ping-pong ball in half and glue them to either side of the head.

Find out more

Ant and Termite
Bee and Wasp
Beetle
Fly
Insect

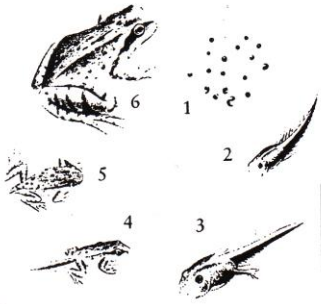
Frog and Toad

Frogs and toads are amphibians so they live both in water and on land. Frogs have moist skins but toads are normally dry. While frogs use their strong back legs for jumping, toads walk. Both animals are good swimmers.



△ The female Surinam toad has special pockets on her back in which her eggs grow. After 80 days, the young toads emerge from the pockets.

△ Many tropical frogs are brightly coloured. This warns other animals that they are poisonous. The poison of the South American poison dart frog (bottom) is so strong that native people put it on the tips of their arrows.



▷ 1 Most frogs and toads lay their eggs, called spawn, in water. 2 After two weeks, tadpoles hatch. 3 Like fish, they breathe through gills, but gradually grow legs. 4 After three months, the gills shrink, the tail gets short and the lungs develop. 5, 6 The tiny frogs are able to leave the water and grow into adults on land.

Find out more

Amphibian
Fish
Newt
Reproduction

Owl

Owls are birds of prey that hunt mainly at night. They use their sensitive hearing and large eyes (which give them good night vision) to catch animals such as mice and rabbits. Owls have soft feathers that allow them to fly silently. The hooting cry of some species is easy to recognize.

△ Tawny owls were once found only in woodlands. Today, they also live in towns and cities, where they hunt mice and rats. During the day, they settle in the trees of parks and gardens.

◁ The burrowing owls of North and South America live in burrows in the ground. They either dig a hole themselves or use one left by another animal, such as a gopher.

Fact box

- Owls can swivel their heads almost all the way round when they are listening for sounds.
- Snowy owls live in the Arctic. They mainly hunt lemmings. These owls nest on the ground.

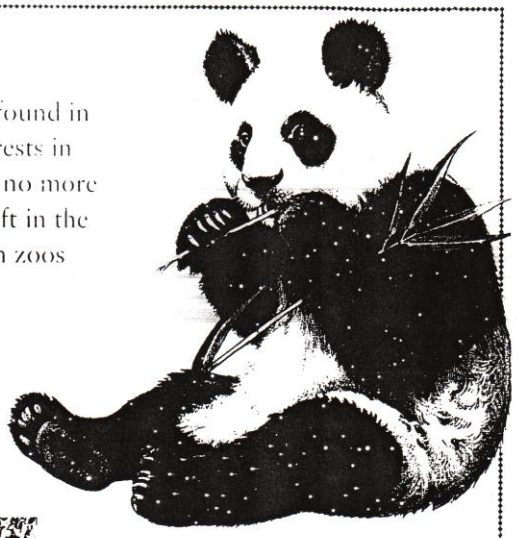
▽ Barn owls build nests in buildings, hollow trees or old hawk's nests. The round, flat shape of the barn owl's head helps it to hear its prey. Once it has caught the animal, the adult brings it to the chicks in the nest.

Find out more

Bat
Bird
Eagle

Panda

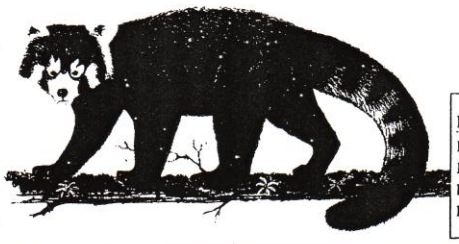
The giant panda is a bear found in just a few high bamboo forests in China. There are probably no more than 1,500 giant pandas left in the wild. About 100 are kept in zoos around the world.



Pandas have one or two cubs at a time. At birth, a cub weighs only 100 grams. At first the mother holds it close to her chest at all times. But it grows quickly and after ten weeks the cub starts to crawl.

△ Giant pandas usually only eat bamboo. To help them grasp the stems, they have an extra pad on their front paws that works like a thumb. Giant pandas have become rare since their forests have been cut down and because they were once hunted for their fur.

Red pandas look very much like raccoons. They live high up in the mountain forests of the Himalayas, from Nepal to China. They feed at night on roots, acorns, bamboo and fruits.



Find out more

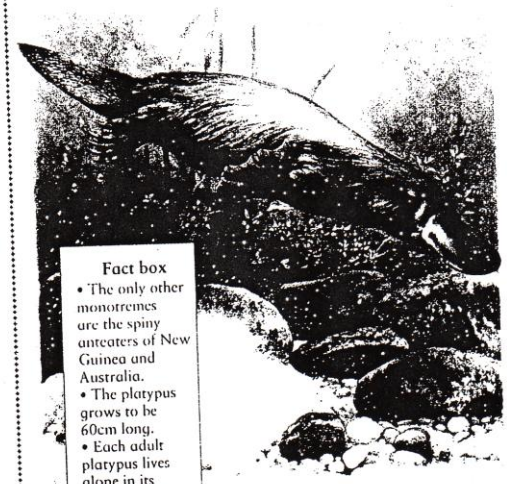
Bear
Mammal
Polar bear
Raccoon

Platypus

The platypus is a strange animal. It is part of a small group of animals called monotremes, which have features of both mammals and reptiles. It has a beaver's tail, a duck's bill and webbed feet. Like a reptile, it lays eggs, but it gives milk to its young, just as mammals do.

The platypus is found in Australia and Tasmania. Like the otter, the platypus lives in a burrow and hunts in the water.

The platypus has fur similar to an otter's. Even its flat tail is covered in fur. When swimming, the platypus paddles with its front feet and steers with its back feet and tail. It uses its sensitive, rubbery bill to find food in the muddy beds of the rivers and lakes where it lives. Platypuses eat crayfish, shrimp, worms, frogs and small fish. They need to eat their own weight in food every day.



Fact box

- The only other monotremes are the spiny anteaters of New Guinea and Australia.
- The platypus grows to be 60cm long.
- Each adult platypus lives alone in its own burrow.

▷ Before laying her eggs, the female platypus makes a nest at the end of her burrow. She lays two or three eggs, then seals the opening of the tunnel to stop predators entering.

Find out more

Beaver
Otter
Shrimp and Prawn

Polar bear

Polar bears live in the frozen regions of the Arctic, where they hunt and raise their young. Their white fur makes them almost invisible in the snow. They mainly feed on seals, but also eat fish, geese and ducks. They are the only northern bears that do not hibernate in the winter.

△ Polar bears have thick, oily coats and a layer of fat to protect them from the icy temperatures, which can drop to –30°C.

◁ Polar bears are good swimmers – they have to be to cross the moving packs of ice. They are often found swimming in the sea many kilometres away from an ice pack or land. Their large, furry feet make good paddles for swimming.

△ Polar bears often wait at the breathing holes of seals. When the seal comes up for air, the bear catches it, kills it and then eats it.

Fact box

- Male polar bears weigh up to 800 kilograms.
- Baby polar bears are born in winter in ice dens. They stay in these with their mothers until it gets warmer.

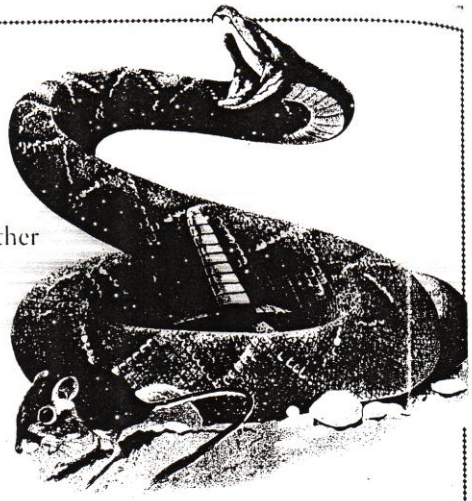
◁ Polar bears live alone and only meet when they go south to mate. They go as far as the mouth of the Amur River in Russia and the Gulf of St Lawrence in Canada.

Find out more

Bear
Penguin
Seal and Sea lion

Rattlesnake

Rattlesnakes are found in North and South America. They are named after their spooky rattle, which warns other animals that they are very poisonous. There are about 30 species of rattlesnake.



◁ The sidewinder is a rattlesnake that lives in sandy deserts in Mexico and the southwestern United States. Its unusual method of moving sideways leaves a distinctive trail.

△ Most rattlesnakes rest during the day and hunt small rodents at night. They detect prey by 'tasting' the air for smells with their forked tongue. As the prey moves closer the rattlesnake feels its body warmth with heat-sensitive pits on the sides of its face.

Fact box

- At 2.5m long, the eastern diamondback is the biggest rattlesnake.
- A rattlesnake's poison comes out of two fangs in its upper jaw.
- The bite of a rattlesnake can be deadly.

▷ Inside a rattlesnake's tail is a set of hard, loose pieces. It is these that produce the rattling noise. You can make your own rattle by threading some bottle tops onto a long nail and attaching it to a length of wood (get an adult to help you). You might scare a few people!

Find out more

Anaconda
Cobra
Communication
Defence
Reptile

Ray

Rays are fish with flat fins shaped like wings. Their eyes are on the top of the body, and the mouth underneath. Rays often lie on the seabed, half-buried in the sand, waiting to catch other fish and shellfish. They are found in all the world's seas, especially warm waters.

△ Manta rays measure over seven metres across. They sometimes leap out of the water to get rid of animals living on their bodies.

Fact box

- The shock from a torpedo ray can be up to 220 volts – enough to knock down an adult human.
- The manta ray is often called the devilfish because of its horns.
- The manta ray uses its horns to guide tiny sea animals like plankton into its mouth.

△ Torpedo rays are also called electric rays, because they give their prey an electric shock to stun it. The electricity is made in muscles in the ray's head.

▷ The spines on a stingray's tail can give a painful sting.

Find out more

Eel
Flatfish
Jellyfish
Shark