

Environment For Children

MUNNI FINDS FOUR-FOOTED FRIENDS





Edited by

Ms Pritee Shah
CERC



© **Consumer Education And Research Centre** All rights reserved.
No part of this publication may be reproduced or transmitted, in any form or by any means,
without permission

First Edition: 2008
ISBN81-85998-24-8

Printed by
Patel Printing Press Pvt. Ltd., Ahmedabad

Published by
CERC in 2008

The views expressed by the author do not necessarily reflect the views of the centre

CONSUMER EDUCATION AND RESEARCH CENTRE

The Consumer Education and Research Centre (CERC) is a Public Charitable Trust, registered under the Bombay Public Trusts Act, 1950, based in Ahmedabad, India. It is a non-political, non-profit and non-government voluntary organization devoted to consumer interest. It is recognized as a Research Institute by the Central Government on the recommendation of the Department of Science and Technology. It is also recognized as a Consumer Organisation by the Government of Gujarat.

Consumer Education and Research Centre
“Suraksha Sankool”, Thaltej
Sarkhej-Gandhinagar Highway
Ahmedabad 380054
Gujarat, India.
Tel: 91-79-27489945/46, 27450528
27438752/53/54
Fax: 91-79-27489947
Email: cerc@cercindia.org
Website: www.cercindia.org

DEUTSCHE GESELLSCHAFT FÜR TECHNISCHE ZUSAMMENARBEIT (GTZ)

As an international cooperation enterprise for sustainable development with worldwide operations, GTZ, Germany, supports the German Government in achieving its development-policy objectives. It provides viable solutions for political, economic, ecological and social development in a globalised world. Working under difficult conditions, GTZ promotes complex reforms and change processes. Its corporate objective is to improve people's living conditions on a sustainable basis.

India has been a priority partner country of German Development Cooperation for more than 40 years. The priority areas for cooperation with India are sustainable economic development, energy and environmental policy, conservation and sustainable use of natural resources.

India and Germany consider sustainable development as the overall goal of a development policy. Both consider environmental management as an important area in the framework of bilateral development cooperation. Advisory Services in Environmental Management (ASEM) is a joint programme of the Indian Ministry of Environment and Forests and the German Agency for Technical Cooperation (GTZ) focusing on urban and industrial environmental management. Set up in August 2002, ASEM constitutes a new phase of the Indo-German development cooperation.

The ASEM programme in India is carried out through its office located at:
A-33, Gulmohar Park, New Delhi -110049



ABOUT THE AUTHOR

Mrs. Chhaya Ramachandran has a master's degree in English. She was a university first rank holder, gold medallist and recipient of a prize for overall proficiency in her subjects.

She started her career as a lecturer of the English language in a Chennai college. She served the banking sector for more than 30 years and retired as a chief manager.

She has gained expertise in communication, public relations and liaising, administration, planning and organizing from the rich work experience she acquired over the years.

Writing has always been her passion. Various in-house bank magazines and bulletins published her articles. She has penned reviews on books, which have been featured in 'The Hindu'

She divides her time now among her interests, which are writing, sketching, teaching, music and photography.

ACKNOWLEDGEMENTS

While presenting this story booklet, we take this opportunity to thank all those who offered us their precious time, assistance, encouragement and enthusiasm without which this booklet would not have been possible.

We express our deep gratitude also to Mrs. Chhaya Ramachandran, for authoring this booklet, Ms. Madhu Pangotra, National Co-ordinator, GTZ project, Ms. Maren Osterloh, International Co-ordinator, GTZ project, and Ms. Krupa Gandhi, Sr. Staff Writer, CERC, for their suggestions and inputs in the making of this booklet. We are grateful to Mr. Siddharth Mukherjee for illustrating and designing this booklet. Also our special thanks to Mr. Debmuni Gupta, Associate Editor, INSIGHT, for proofreading the manuscript.

Mrs. Chhaya Ramachandran expresses her thanks to Mr. Ramkumar Venkateswaran, her nephew, Mr. Dilip Gargeya, her son, Ms. Aditi Gargeya, her daughter, Ms. Shakuntala Narayanan, her sister-in-law, Mr. Raman Murali, her brother, her husband, her siblings and friends for their efforts, support and inspiration.

Editor.

Environment For Children

MUNNI FINDS FOUR-FOOTED FRIENDS

By
Chhaya Ramachandran

Do you know what fun I had last summer?
With Grandpa, Ramu, Geetha, Kuppu...?
Oh, I never thought it would be so great!
Let me tell you all about it





At the end of School term I was feeling so bored.... Once again Papa and Mamma were going abroad! They are both geologists; often they go on tours abroad. But I could not accompany them as they had a very tight one-month schedule of conferences and lectures. What bothered me was that I was to be left in the care of my grandparents back in the village, as Malu Aunty would not be able to come and stay with me at home like in earlier times. I would miss going



with Aunty to the beach, the movies and video games and fun-cooking! But the village! I recalled the cowshed, haystack and funny smells. Grandpa was a retired Biology Professor, settled in his own farmhouse. I had been to Mangalpet on short visits. It was three years since I had been there. Do they have a TV there now? I wondered.

Papa left me with grandpa with hugs and repeated whispers of "Take care!" while Mamma held me close,



kissed me and gave me a small packet before they left the same evening for the City . When I opened the gift later, I was excited to find that it was a talking parrot, a beautiful toy that repeated what you said! It had a small recording device. This alone should keep me entertained the whole month, I thought.

Grandma tucked me into bed next to her that night and I thought she was a dear. But what am I going to do in this boring place a whole month? Oh, and no TV! It was Grandpa who woke me up next morning. "Up-



up, uppity-up, my dear gal! Get ready, quick! Have your milk and put on your walking shoes. Hurry!"

"Oh, where are we going so early, Grandpa?" I was on my feet and soon found myself running down the village lane to catch up with him.

"You'll find out now.... Look around yourself!.....Do you have Nature Walk classes at School, Munni?"

"Once a week, yes." But we hardly stirred too far out of school except to a farm or zoo or a botanical garden.

We had been climbing a slope . At last we stopped on



a flat ground, and I drew in a sharp breath. I was stunned to find a small valley full of thick foliage and flowers all greenery. What was exotic was a swarm of butterflies and bumble-bees circling all over, flitting from flower to flower. "Oh.....!" I gasped. "Have you seen this kind of thing in your City?" chuckled Grandpa.

"Look at the butterflies, Munni! You know what they do? When they drink honey from so many flowers, they carry pollen from one flower to another, and that in turn creates new buds and then flowers. This is known as pollination."



"So, pollination helps new flowers, seeds, plants and trees grow, in the long run. I know! But I have not seen so many butterflies at a time!"

"Yes, Munni, the bees do the same thing and we get our honey from the storage in their hives! In fact, man steals their treasure when he dislodges a beehive." said Grandpa. "And birds and bats, particularly hummingbirds, sunbirds, spider-hunters, honey-eaters, and fruit bats also pollinate! Bet, you have not seen most of them!" grinned Grandpa and continued: "See those squirrels, they also help in creation."

"Yes, they leave seeds and nuts behind them which



sprout and become plants and trees much later!”

On our way back, we stopped to watch snails slowly making their way, and earthworms moving in and out of the deep, wet sand borders of the winding path.

Back home we had idlis and chutney for breakfast and I noticed they were made in the traditional idli-pot and not a pressure cooker, which meant slower steam and softer idlis. Grandma grumbled, “No amount of care will do to keep off these flies and cockroaches from the kitchen.”

“But, Pattamma! ...the earthworms we saw this



morning as also your flies and cockroaches are good scavengers.! Don't scold them! And you have enough lizards that feed on the flies! Ha-ha-ha!"

Grandma pulled a face at this.

"Do you know, Munni, scavengers are animals that find dead animals or plants to eat. While they eat them, they break them into small bits. Flies, wasps and cockroaches are scavengers. Earthworms, also scavengers, cut only plants into small pieces." said Grandpa. Thankfully breakfast was over, or else I would have puked!

"So are crows!" I was quick to add.



"Also wild dogs. And vultures, jackals and hyenas." said Grandpa and made me shudder, but I guessed that these animals are much needed do-gooders.

Grandpa continued, "Yes, dear, and once scavengers are done feeding, the decomposers like fungi and bacteria take over, and finish the job. Without them, plants aren't as healthy, grow slower, and produce less fruit."

I was awed at all this information. "So, Grandpa, we have to thank these little things, and not shoo them off as pests, I think!"

"Yes, tell Grandma they are part of Nature and help



in the process of birth and growth!" I thought Grandma would still not tolerate a cockroach!

We were then looking at the cow with its new-born calf in the barn. There were several large bins for cattle feed and cow dung collection in the cowshed, into which I peeped gingerly, with my fingers closing my nostrils. Grandpa fed the cow with some hay, and helped me do the same. Then he turned to me and said, "Hey, do you know, a single dairy cow produces about 45 to 50 kilograms of wet manure per day, equivalent to the waste produced by 20-40 people."

"Oh, Grandpa!"



He just laughed and said, "Yes, where do you think we get all the manure for your Grandma's huge kitchen garden? And for all those shady trees and flowering shrubs around?" I loved the beautifully kept kitchen garden where I had watered the plants with Grandma. They had planted pumpkins, snake gourds, bitter gourds, tomatoes, carrots, chillies, ladies' fingers, cabbages and brinjals. The season's vegetables were bursting on the plants, ready to be plucked and eaten fresh.

I dreamt that night of colourful butterflies sitting on my frock as if they were printed on it. And suddenly



I fell skating on cow dung and woke up!

Ramu, the Village Head's son, came the next day with a jar full of honey. I was thrilled to know it was collected by his friends who were regularly doing this job, from a number of beehives I had seen in the valley nearby.

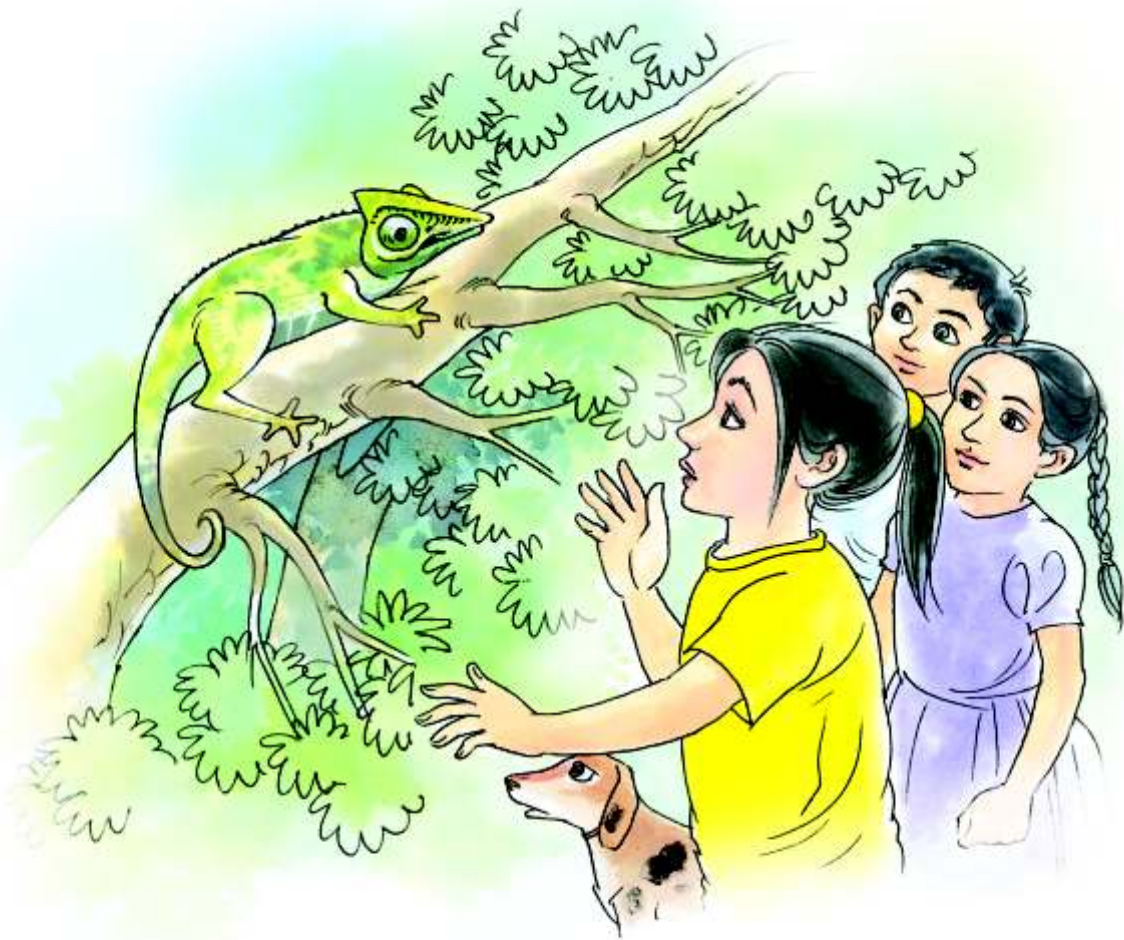
"Ramu, why don't you and Geetha take Munni out this morning? Go to the waterfalls," said Grandpa. 'Exciting!' I thought.

Thus almost every other day in the following fortnight I went to bathe in the small rivulet falling down from an impressive height near the village. We



saw grazing cattle, sheep and cute little donkeys on the way, and one day even wild horses from a neighbouring farm! Bubbloo, Geetha's mongrel, kept faithful company, chasing butterflies all the way. He had a big share of our picnic lunch every time he went out with us!

Geetha yelled one morning, tightening the leash in her hand: "Hey, Bubbloo! You are a goose! Stop chasing the Onaan!" Wondering how a dog can be a goose, I looked up at the tree nearby and instantly froze at what met my eyes! A chameleon with huge sleazy, baggy eyes was staring at them, and indeed



he was a forbidding figure! What with those scales on his thick brown skin and lots of bubbly protrusions, he merged with the tree bark so well! I dared not move, but he did not bother to pay attention to any of us except Bubbloo. He then did something peculiar. He seemed to become the green foliage of the huge tree! He had hopped onto the branches and changed his skin colour to green. I had only heard of chameleons and could not believe what I saw.

Later, Grandpa told me that a chameleon is the best example of animals being part of Nature-literally so! He proceeded to explain : an animal's physiology



adjusts to accommodate the change in its environment. Thus its 'tolerance range' shifts. This shift that the animal experiences in response to a changed environment is called 'acclimatization'.

"Oh, please don't stuff your Zoology lessons into the poor child's head! She is on a holiday, remember?" said Grandma, pushing into my plate more pooris and aalu. "Okay, you stuff pooris into her, otherwise her Dad may think she is starving!" said a cheeky Grandpa.

That night, I kept turning and tossing in bed and imagined the chameleon changing colours as in a



rainbow, and talking to me:

"Munni! Look, this is a peaceful life here, plenty of creatures and leaves to eat. Shady hedgesEnough sunlight to bask in... But sometimes that Bubbloo goose scares me out of my wits with his barking...." I almost tumbled out of bed, laughing....

Ramu and Geetha did not come the next three days. Bored, I spent my time talking to Kuppu, the calf, whom I had grown to love for his darling eyes and restless antics. I noticed he was mooing and jumping a lot, ears pricking out, hair on end. No wonder, for there were strong winds and sharp summer showers



that evening. Kuppu seemed to know the rains were coming. Grandma said animals always knew the weather changes in advance! "They smell the weather, you know!" she said.

The fourth day, Geetha came alone, her eyes red and swollen. "What is the matter, Geetha?" asked Grandpa. It seemed Ramu had been hit badly by a boulder and could not walk, but it was no accident! Some strangers in the neighbouring village across the waterfalls were sighted by him three days back, trying to shoot down the monkeys that usually kept darting across trees near the falls. When Ramu



warned them, they had chased him and thrown a large stone at him. Poor Ramu had fallen and sprained his ankle badly. Bubbloo had sprung at the mischief-makers but they had run away.

Grandpa was furious, and at once went out to see Ramu to check if he was all right and to talk to him. He also gathered more facts from local people who had seen those bad fellows. The horrible men had managed to kill two monkeys and carry them away. "This is unethical!" said Grandpa angrily and phoned the Police and the unit of the Society for Prevention of Cruelty to Animals (SPCA) in the nearby town. A week later,



the miscreants were found poaching again and were caught red-handed by the Police.

"Ignorance, greed and insanity! Do they realize they are ruining the complex biodiversity of the eco-systems by killing poor animals?" barked Grandpa.

"Wh...what do you mean, Grandpa?...." I asked weakly.

"Uh, nature's balance is upset!" he said.

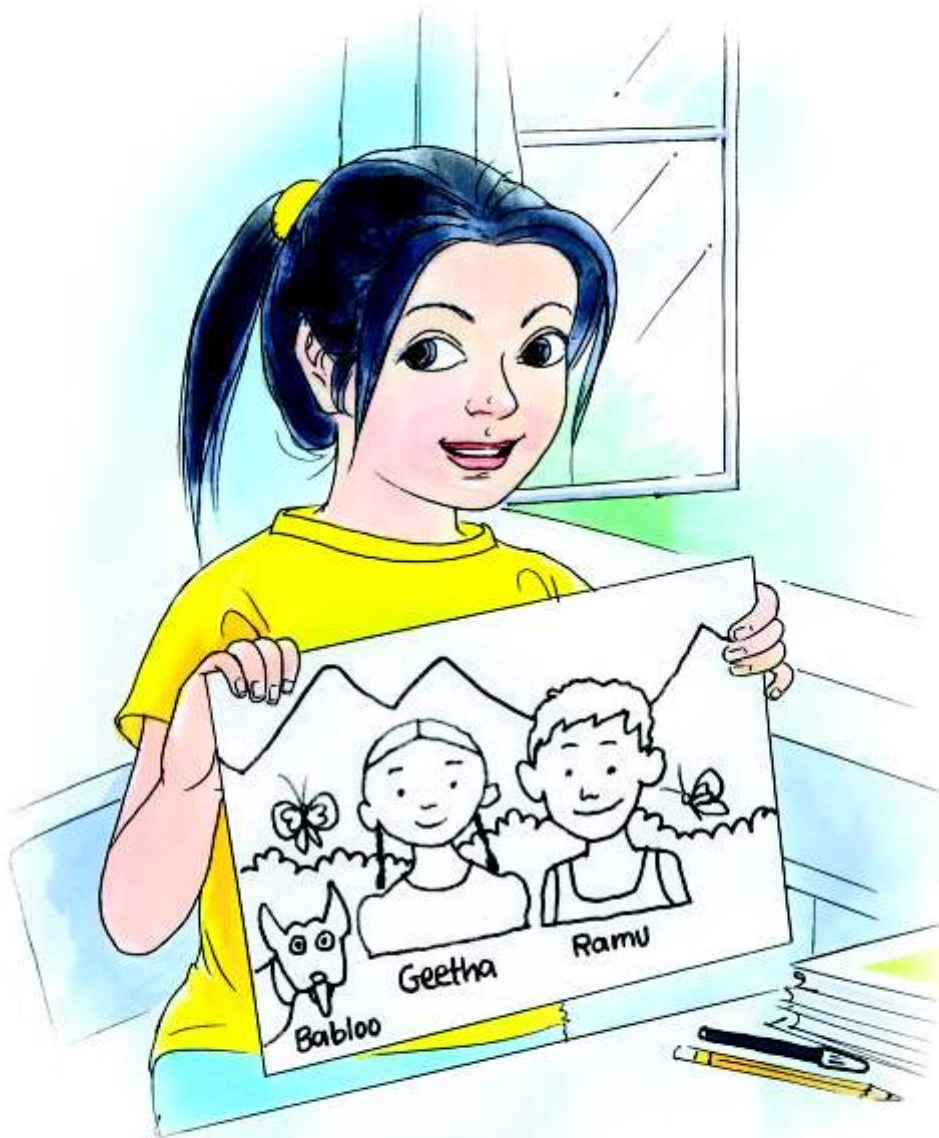
It was Grandma who broadly 'translated' Grandpa's angry words and said softly, "We only share the planet with animals. People are selfish and indifferent to animals' sufferings... Cruelties are



needlessly inflicted on the poor creatures. That's why Grandpa is angry. You know how he talks when he is upset!"

I could only wish humans were more caring.

A month had passed and Ramu was all right. Mamma and Papa were back! They came to fetch me and we all visited the waterfalls one last time the day before leaving the village. They were surprised that my parrot was full of eco-vocabulary, like myself! "Munni has grown even healthier, her cheeks are glowing!" said Mamma to Grandma, kissing me.



Papa knew that Grandpa had fed my mind with so much eco-information - while Grandma had filled my heart with compassion for Nature, and my tummy with the healthiest food I ever ate!

I thought Kuppu had tears for me in his large eyes, when we left...

I am off to Mangalpet this summer too! I would never feel bored again when I am there!

Facts: (on a cross section of creatures large and small)

1. Animals are part of our environment, and indicate its well-being or otherwise. They have keen senses of smell, vision, and taste. Their reactions to changes in weather or movements by other living beings can warn us of disasters coming up and give us time to adjust to the consequences. Examples are : dogs howling before a stormy night; or cattle refusing to be tied down; or deer running in a flock when they sense other animals.
2. Creatures like your pet dogs are acutely sensitive to smells as they have very sensitive pores. So the world's sights, sounds and smells often mean more to them than to us. What we cannot sense is often known to their sense of smell and hearing in advance. Hence they are used with great success as 'detectives' or 'sniffer dogs' by the police force.
3. How we treat our pets indicates of our sensitivity to our environment. How we treat stray animals or street animals indicates real compassion for and understanding of them although they do not belong to us.
4. The range of an environmental trait to which an animal adapts itself is called its 'tolerance range'. The best example is a chameleon, which changes colour to suit its background. It is an act of self-defence, and the creature seems to merge with nature.
5. Decomposers and scavengers are important for getting nutrients back into the soil for plants to use and bear healthy flowers and fruits. Many kinds of decomposers are microscopic; they cannot be seen without a microscope. Others like fungi can be seen. Different kinds of decomposers do different jobs in the ecosystem. Others like some kinds of bacteria break down meat or waste from carnivores. Certain kinds of fungi prefer fruits and vegetables.
6. One of the largest environmental organizations in the world is WWF or World Wildlife Fund started in 1961. There are now more than 2000 WWF conservation projects under way around the world. The vast majority of these focus on local issues. The logo of WWF is a panda.
7. The Blue Cross of India was established in 1959 and registered as a Society under the Societies Registration Act in 1964 to alleviate the suffering of animals. It has grown from small beginnings to one of India's largest animal welfare organizations, running active animal welfare, animal rights and humane education programmes.

Their India headquarters is:

Blue Cross Of India

1 Eldams Road. Chennai - 600 018

Tel : 91 - 44 - 22354959 / 22300666 / 22300655

Fax: +91 44 2250 1801 Email : bluecrossofindia@gmail.com

Bibliography:

Following links:

http://www.encyclomedia.com/video-scavenger_animals.html

Wikipedia, the free encyclopedia

<http://www.networkforgood.org/Animals and Environment/RochesterEnvironment.com>

IVU (International Vegetarian Union) Regional Websites



Activities:

1. Spend some time for animal rights:-

- Volunteer with one of these organizations : The SPCA (Society for Prevention of Cruelty to Animals) or the Blue Cross or the WWF. Learn about their activities. Browse through their websites with the help of elders.
 - Report to the SPCA or the Blue Cross any incidence of cruelty to animals you come across in your neighbourhood.
 - Join or subscribe to one of the growing online WWF communities like 'Passport' and take action online as part of the WWF's environmental campaigning community. Bring these organizations to the attention of your teachers and form a club on the lines of these societies in a small way with classmates and friends, under teachers' guidance.
- Adopt a dog or cat and learn to love and care for it. Make it comfortable and not captive. Try to understand what the animal is conveying. Talk to the pet.
 - Talk to your grandfather or grandmother. Find out which birds and animals they usually found around home or in their village when they were children, Ask them if these are missing now. Find out for yourself if they are ever seen.

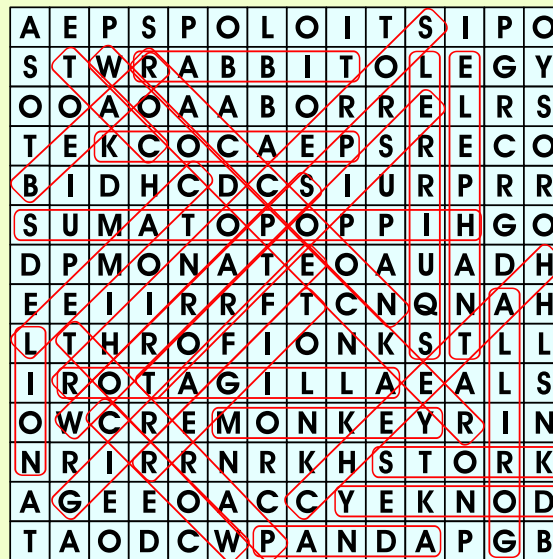
4. Puzzle

Find a total of 25 animals/birds in the grid - upwards, downwards, diagonally and backwards!!!

A	E	P	S	P	O	L	O	I	T	S	I	P	O
S	T	W	R	A	B	B	I	T	O	L	E	G	Y
O	O	A	O	A	A	B	O	R	R	E	L	R	S
T	E	K	C	O	C	A	E	P	S	R	E	C	O
B	I	D	H	C	D	C	S	I	U	R	P	R	R
S	U	M	A	T	O	P	O	P	P	I	H	G	O
D	P	M	O	N	A	T	E	O	A	U	A	D	H
E	E	I	I	R	R	F	T	C	N	Q	N	A	H
L	T	H	R	O	F	I	O	N	K	S	T	L	L
I	R	O	T	A	G	I	L	L	A	E	A	L	S
O	W	C	R	E	M	O	N	K	E	Y	R	I	N
N	R	I	R	R	N	R	K	H	S	T	O	R	K
A	G	E	E	O	A	C	C	Y	E	K	N	O	D
T	A	O	D	C	W	P	A	N	D	K	P	G	B

Answer to animals and
birds puzzle

(* A raccoon is a grayish-brown
American mammal with a black
face and a striped tail)



alligator	rhinoceros	lion	tiger
giraffe	monkey	donkey	squirrel
camel	elephant	rabbit	cat
cheetah	bear	hippopotamus	crow
sparrow	parrot	woodpecker	raccoon
panda	stork	tortoise	peacock
gorilla			

5. Group game

- Sit around with friends.
- Be ready with paper and pen or pencil, draw columns 'animals' and 'birds'
- Let the leader call out an alphabet.
- Write the name of an animal and a bird starting with that alphabet.
- Let one person imitate the animal's or the bird's sound.
- Let others try to guess the name of the animal/bird.
- The first one to find out gets marks and his/her turn to imitate.
- Those who make wrong guesses are out.
- One who successfully writes the most number of names and makes the most number of imitations gets a prize.
- It is fun, hearing all the creatures, isn't it?

6. Drawing & Clay Modelling

Go out and observe small creatures in their natural habitat and draw their forms.

Modelling minibeasts is an excellent follow-up to drawing from observation. You will now have some knowledge of the creatures' shapes, covering and colours. Clay, plasticine and dough can all be used for modelling. Cold clay dries hard without firing and looks most effective when painted and varnished. Plastic clay or plasticine does not give stiff parts or features.

Moth

To make a moth, draw a simple outline on paper and cut it out. Put this on a slab of clay and pinprick around the outline through the paper and into the clay.

Remove the paper, join up the pinpricks and cut out the shape with a knife. (Do it under adult supervision). Use a small coil of clay for the moth's body and attach antennae and wings, bending them slightly to make the moth more life-like. Paint the moth.

Ladybirds and Beetles

Ladybirds and other beetles can be made from thumb-pots. Pat a small lump of clay into a ball. Press the thumb of one hand into the ball of clay. Keep your thumb inside the hole and your fingers on the outside. Turn the pot, pressing evenly to form the sides, making sure that they are not too thin. Make a smaller pot in the same way for the head and join the open ends of the pots with a thick paste made from clay and water. Use a modelling tool to form the head and the body, and attach legs made from thin clay coils.

7. Protecting biodiversity in your schoolyard and environs:

- ★ Map the native flora and fauna in your school environment. Learn the names of each of the species and estimate their numbers and range. Learn if you have any species in your environment that are rare and threatened. If so, try to find out what you need to do to protect them. For more information visit: <Http://www.parks.tas.gov.au/threatened/index.html>
- ★ Mount an education campaign to ensure that neighbours keep their gardens weed-free.
- ★ Make your neighbours participate in school activities like tree-planting, periodically sharing organic manure for the school garden, attending pet clinic visits organised by the school twice a year, ensuring that anti-rabies vaccine is available in all neighbourhood hospitals, etc. Parent-teacher meetings can devote time to these activities and depute children for different jobs.
- ★ Ensure that watercourses in your school environment are kept pollution and weed-free and are allowed to flow freely.
For more information: <http://www.up2meforkids.com.au>

8. Adopting a tree or plant:

As part of eco-club activities, each student from every class must adopt a small plant or a growing tree in the school grounds, or saplings in the school kitchen garden. They may take the following steps to carry out this activity successfully:

1. Fence the trees/plants to save them from stray animals.
2. Display in tiny placards, next to each plant/tree adopted, its common name and botanical name as well as the name of the student who is responsible for its growth.

3. Water the plants regularly, taking turns in groups to conserve water and time. Channel water in such a way that all plants and trees get enough.
4. Remove weeds every week.
5. Apply pesticides periodically.
6. Prune barks, remove leaves on a regular basis.
7. Dig manure pits and collect organic waste from neighbourhood in the pits and fill them with dry leaves, twigs, etc as manure.
8. Grow earthworms in pits so that the manure will be turned over by them and it will be rich in composition. This manure can be sold at a nominal price to outsiders, if conservation and non-teaching staff in the school help.
9. Let the school ensure rainwater harvesting to avoid water shortage.
10. Do not overdo watering or pruning.
11. Allot all jobs on a rotational basis and ensure nobody fails in her/his duty.
12. Take notes on the vegetation and its growth, setbacks, problems, monthly yield, etc.
13. Share the yield among all students and teachers, or if there is plenty, arrange to sell them through a marketing co-operative store.
14. There should be awards for the best grown plant/tree/flower, etc. Category-wise at the end of the year, when Vana Mahotsav can be celebrated to plant more saplings in and around the school and the town where you live. The school can sponsor the prizes.



Bibliography:

http://www.encyclomedia.com/video-scavenger_animals.html
 Wikipedia, the free encyclopedia
<http://www.networkforgood.org/Animals and Environment/RochesterEnvironment.com>
 IVU (International Vegetarian Union) Regional Websites
 BBC News:<http://news.bbc.co.uk/2/hi/science/nature/4297531.stm>
www.worldwildlife.org
www.bluecross.org.in
<http://www.scholastic.com>
<http://www.parks.tas.gov.au/threatened/index.html>
<http://www.up2meforkids.com.au>
 Microsoft Encarta Dictionary Tool (online)





Consumer Education and Research Centre

“Suraksha Sankool”, Thaltej
Sarkhej-Gandhinagar Highway
Ahmedabad 380054
Gujarat, India.
Tel: 91-79-27489945/46, 27450528
27438752/53/54
Fax: 91-79-27489947
Email: cerc@cercindia.org
Website: www.cercindia.org